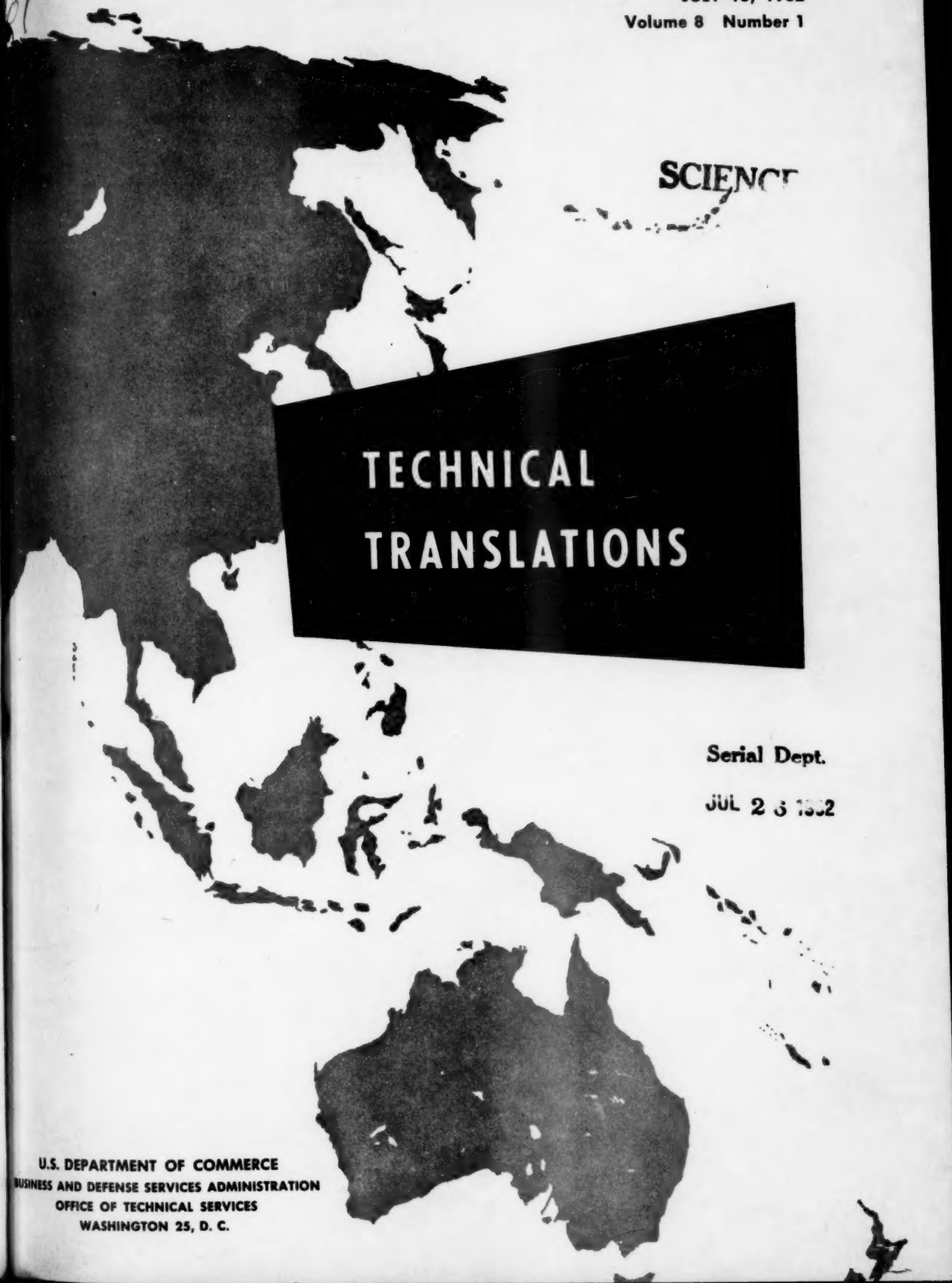
JULY 15, 1962
Volume 8 Number 1

SCIENCE



TECHNICAL TRANSLATIONS

Serial Dept.
JUL 2 3 1962

U.S. DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION
OFFICE OF TECHNICAL SERVICES
WASHINGTON 25, D. C.

TECHNICAL TRANSLATIONS

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SYMBOLS FOR SOURCES OF TRANSLATIONS

AC
A. Capelo
P. O. Box 46354
Hollywood 46
California

AGI
AGI Translations Office
American Geological Institute
2101 Constitution Avenue, N. W.
Washington 25, D. C.

AGS
American Geographical Society
Broadway at 156th Street
New York 32, New York

AGU
American Geophysical Union
1515 Massachusetts Avenue, N. W.
Washington 5, D. C.

AIBS
American Institute of Biological Sciences
2000 P Street, N. W.
Washington 6, D. C.

AIP
American Institute of Physics
335 East 45th Street
New York 17, New York

AIS
Argus Information Service
624 N. Eutaw Street
Baltimore 1, Maryland

AM
Acta Metallurgica
122 East 55th Street
New York 22, New York

ANSP
Academy of Natural Sciences of Philadelphia
19th Street and the Parkway
Philadelphia 3, Pennsylvania

API
Academic Press, Inc.
111 Fifth Avenue
New York 3, New York

ATS
Associated Technical Services, Inc.
P. O. Box 271
East Orange, New Jersey

BIHR
Circulation Manager
Translations of the Beltone Institute for Hearing Research
2900 West 36th Street
Chicago 32, Illinois

BISI
British Iron & Steel Industry Translation Service
The Iron and Steel Institute
4, Grosvenor Gardens
London, S. W. 1, England

BWRA
British Welding Research Association
Abington Hall, Abington
Cambridge, England

CB
Consultants Bureau Enterprises, Inc.
227 West 17th Street
New York 11, New York

CCT
Consultants Custom Translations, Inc.
227 West 17th Street
New York 11, New York

CHP
Cleaver-Hume Press, Ltd.
31, Wright's Lane
London, W. 8, England

CIDNT
Centralny Instytut Dokumentacji Naukowo-Technicznej
Warszawa 12
Aleja Niepodleglosci 188
Poland

CSIRO
Commonwealth Scientific and Industrial Research Organization
Information Service
314 Albert Street
East Melbourne C. 2, Victoria
Australia

CTRA
The Librarian
The Coal Tar Research Association
Oxford Road
Gomersal, Leeds, England

CTS (Chem)
Chemical Translations Service
2243 Greer Road
Palo Alto, California

CTT
Columbia Technical Translations
5 Vermont Avenue
White Plains, New York

DI
Circulation Unit
Department of the Interior
Central Library
Room 1149
Washington 25, D. C.

EIS
Engineering Information Services
Kirkham, Preston, Lancashire,
England

ES
Erica Stux
584 Moreley Avenue
Akron 20, Ohio

ETC
European Translations Centre
Doelenstraat 101, Delft,
The Netherlands

FRI
Fulmer Research Institute, Ltd.
Stoke Poges,
Buckinghamshire,
England

FT
Faraday Translations
15 Park Row
New York 38, New York

GB
Gordon and Breach
Publishers, Inc.
150 Fifth Avenue
New York 11, New York

GPO
Superintendent of Documents
Government Printing Office
Washington 25, D. C.

HB
Henry Brutcher
P. O. Box 157
Altadena, California

HMSO
Jer Majesty's Stationery Office
P. O. B. 569
London, S. E. 1, England

HTCBN
Hungarian Trading Company for
Books and Newspapers "Kultura"
Budapest 62, P. O. Box 149

INFOSERV
Infoserv
967 Farmington Avenue
West Hartford 7, Connecticut

IP
Interscience Publishers, Inc.
250 Fifth Avenue
New York 1, New York

K-H
Kresge-Hooker Science Library
Associates
Wayne State University
Detroit 2, Michigan

LAND-AIR
Land-Air, Inc.
Pacific Missile Range
Point Mugu, California

LC
Photoduplication Service
Publication Board Project
Library of Congress
Washington 25, D. C.

LSA
Literature Service Associates
Route 1
Bound Brook, New Jersey

MACL
Maclaren and Sons, Ltd.
Maclaren House
131 Great Suffolk Street
London, S. E. 1, England

MT
M. de O. Tollemache
Pennyford Cottage,
Burrington,
Umberleigh, Devon, England

NASA
National Aeronautics and Space
Administration
1520 H Street, N. W.
Washington 25, D. C.

NRCC
National Research Council,
Library
Ottawa 2, Canada

OB
Oliver & Boyd, Ltd.
Tweeddale Court
14 High Street
Edinburgh 1, Scotland

OSA
Optical Society of America, Inc.
33 University Road
Cambridge 38, Massachusetts

OTS
Office of Technical Services
Department of Commerce
Washington 25, D. C.
(Also available through
Department of Commerce
Field Offices)

PERA
The Information Manager
Production Engineering Research
Association
Melton Mowbray
Leicestershire, England

PLP
Plenum Press, Inc.
227 West 17th Street
New York 11, New York

PP
Pergamon Press
122 East 55th Street
New York 22, New York

PS
Primary Sources
11 Bleecker Street
New York 12, New York

RIA
Research International Associates
1522 Connecticut Avenue, N. W.
Washington 6, D. C.

RIS
Research Information Service
40 East 23rd Street
New York 10, New York

SA
Seizaburo Aoki
1069 Minami Nakadori 2-chome
Fujisawa, Japan

SLA
SLA Translations Center
The John Crerar Library
86 East Randolph Street
Chicago 1, Illinois

STS
Scientific Translation Service
2104 Minoru Drive
Altadena, California

STT
SCIENTECH, Scientific and
Technical Translations
P. O. Box 3530
Cleveland 18, Ohio

TDL
Mr. John Wiley
Technical Development
Laboratories
P. O. Box 769
Savannah, Georgia

TF
Taylor and Francis, Ltd.
Red Lion Court, Fleet Street,
London, E. C. 4, England

TIB
Technische
Informationsbibliothek
Am Welfengarten 1,
Hannover. West Germany

TIC
Technical Information Company
Patents Department
Chancery House
Chancery Lane
London, W. C. 2, England

TTIS
Translation and Technical
Information Services
32, Manation Road
London, S. E. 15, England

WBI
Warren Birkenhead, Inc.
No. 1, Kasumi-cho, Azabu
Minato-ku,
Tokyo, Japan

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4400 Forbes Street
Pittsburgh 13, Pennsylvania

Georgia Institute of Technology
Price Gilbert Library
Atlanta, Georgia

Massachusetts Institute of Technology
Libraries
Technical Reports, Room 14-E210
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

The Pennsylvania State University
University Park, Pennsylvania

University of California
Engineering Library
Los Angeles, California

University of Utah
University of Utah Library
Salt Lake City, Utah

Library of Congress
Washington 25, D. C.

UNITED STATES DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION
OFFICE OF TECHNICAL SERVICES
WASHINGTON 25, D. C.

TECHNICAL TRANSLATIONS

Volume 8, Number 1 Pages 1 - 85 July 15, 1962

*Descriptors marked with an asterisk are included in the subject index.

BIBLIOGRAPHY

ASTRONOMY, UPPER ATMOSPHERE AND SPACE RESEARCH: BIBLIOGRAPHY OF SELECTED SOVIET ARTICLES. 19 Mar 62 [37]p. 194 refs. JPRS: 13002.
Order from OTS or SLA $3.60 62-23433

Compilation from 21 issues of the Soviet abstract journals Referativnyy Zhurnal, series: Astronomiya i Geodeziya, Geofizika, Mekhanika, Fizika, Matematika, and Elektrotekhnika, 1960, Jan-Mar.

DESCRIPTORS: *Bibliography, Celestial mechanics, Moon, Planets, *Upper atmosphere, Atmosphere, *Radio astronomy, Satellite vehicles, *Satellite vehicle research, Space probes, Astronautics.

AGRICULTURE

SCIENTIFIC ACTIVITY NEWS, 1961 [NO. 4]: SELECTED ARTICLES. 31 Aug 61 [13]p. JPRS: 9965.
Order from OTS or SLA $1.60 62-19574

Trans. of Tin Tuc Hoat Dong Khoa-Hoc [sic] (North Vietnam) 1961 [no. 4] p. 32, 37-39.

DESCRIPTORS: *Agriculture, Animals, Biology, Geology, Scientific research, Universities, Vietnam

Contents:
Technical council of the Ministry of Agriculture
Department of bio-geology
The comprehensive university.

Ogaradenko, N. A.
TYPISIERUNG DER SCHLEPPERZÜGE (Standardisation of Tractor Plows). 5p. (text in German).
Order from T.I.B. $1.40

Trans. of Traktory i Sel'khozmashiny (USSR) 1961 [v. 4] no. 7, p. 20-23.

DESCRIPTORS: Agriculture, Standardization, *Tractors.

Animal Husbandry

BRUCELLOSIS OF HARES AND SHEEP IN POLAND. 15 Mar 61 [16]p. 8 refs. JPRS: 6910.
Order from OTS or SLA $1.60 62-19205

Trans. of Medycyna Weterynaryjna (Poland) 1960, v. 16, no. 9, p. 533-534 and no. 10, p. 577-581.

DESCRIPTORS: *Brucellosis, Poland, *Sheep, *Rabbits, Serum, Diagnosis, Veterinary medicine.

Contents:
A case of brucellosis in sheep, by Alfred Chodkowski and others
Brucellosis of hares in Poland, by Jan Hay.

LEPTOSPIROSIS AND BRUCELLOSIS RESEARCH IN YUGOSLAVIA. 27 Sep 61 [26]p. JPRS: 8954.
Order from OTS or SLA $2.60 62-19465

Trans. of Acta Veterinaria (Yugoslavia) 1960, v. 10, no. 3, p. 123-128; no. 4, p. 73-79 and 103-109.

DESCRIPTORS: *Spirochetosis, *Brucellosis, Yugoslavia, *Horses, *Diagnosis, Swine, Biochemical tests, *Complement.

Contents:
Report on leptosirosis in horses, by D. Dzoljic and R. Anic
Study on the serological diagnosis of brucellosis in hogs, by P. Trimic and others

Specificity of the complement fixation reaction in the diagnosis of brucellosis, by B. Tribic.

POLISH TESTS FOR BRUCELLOSIS. 12 June 61 [22]p. 37 refs. JPRS: 9391.
Order from OTS or SLA $2.60 62-19204

Trans. of Medycyna Weterynaryjna (Poland) 1961, v. 17, no. 2, p. 65-70 and 73-74.

DESCRIPTORS: *Brucellosis, *Cattle, Serum, Countermeasures, Skin, *Dogs, *Diagnosis, Veterinary medicine, Biochemical tests.

Contents:
Importance of correct interpretation of serological results in combatting brucellosis of cattle, by Jerzy Wisniowski
The application and interpretation of the intradermal test in brucellosis of dogs, by Tadeusz Nazar.

Bannov, A. T.
MEANS OF ERADICATING THE FOOT-AND-MOUTH DISEASE EPIZOOTICS IN THE KRASNOYARSK TERRITORY (O Putyakh Likvidatsii Yashchurnykh Epizootii v Krasnoyarskom Krae). 13 Dec 61, 9p. Trans. V-1753.
Order from OTS or SLA $1.10 62-23300

Trans. of Veterinariya (USSR) 1961, v. 38, no. 8, p. 18-20.

DESCRIPTORS: *Foot-and-mouth disease, Diseases, Animal industry, *Veterinary medicine.

Beklemishev, V. N.
CONCERNING THE EPIDEMIOLOGY OF TRANSMISSIBLE DISEASES OF WILD ANIMALS AFFECTING MAN: COMPLEXES OF COMBINED NATURAL AND INTRAPOPULATION FOCI. 19 Feb 62 [11]p. 13 refs. JPRS: 12598.
Order from OTS or SLA $1.60 62-19780

Trans. of [Meditsinskaya] Parazitologiya i Parazitarnye Bolezni (USSR) 1961, v. 30, no. 4, p. 389-394.

DESCRIPTORS: *Infections, *Diseases, *Epidemiology, *Animals, Disease carriers, Population.

Hubrig, Th.
EFFECTIVENESS OF THE IMMUNIZATION OF DAIRY COWS AGAINST BRUCELLOSIS USING THE LIVE-BRUCELLA VACCINE "DESSAU": POST-VACCINATION EVALUATION BY MEANS OF THE BRUCELLA RING TEST. 28 Dec 61 [10]p. JPRS: 11662.
Order from OTS or SLA $1.10 62-19743

Trans. of Monatshefte für Veterinärmedizin (East Germany) 1961, v. 16, no. 11, p. 422-425.

DESCRIPTORS: *Cattle, *Immunization, *Brucellosis, *Brucellosis vaccine, Veterinary medicine.

Kulczycki, Jozef.
FIVE-YEAR AND LONG-RANGE PLAN OF SCIENTIFIC RESEARCH OF THE COMMITTEE OF VETERINARY SCIENCES OF THE POLISH ACADEMY OF SCIENCES. 20 Jan 61 [10]p. JPRS: 6625.
Order from OTS or SLA $1.10 62-19206

Trans. of Medycyna Weterynaryjna (Poland) 1960, v. 16, no. 7, p. 385-389.

DESCRIPTORS: *Scientific research, *Poland, *Veterinary medicine, Scientific personnel, Training.

Pogonyailo, G. F., Teryukhanov, A. B., and Evdokimov, P. D.
TESTS OF THE EFFECTIVENESS OF SIMULTANEOUS HOG CHOLERA VACCINATION AFTER AIR-DROP INFECTION WITH THE CHOLERA VIRUS (Ispytanie Effektivnosti Simul'tannykh Protivochumnykh Privivok Svinei Posle Vozdushnokapel'nogo Zarazheniya Virusom Chumy). 30 June 61, 3p. Trans. V-1709.
Order from OTS or SLA $1.10 61-28145

Trans. of Leningrad[skii] Nauchno-Issledovatel'skii Veterinarnyi Institut. Byulleten' Nauchno-Tekhnicheskoi Informatsii (USSR) 1959, no. 7, p. 5-6.

DESCRIPTORS: Hog cholera, *Hog cholera virus, *Hog cholera vaccine, Effectiveness, Tests.

Rotov, I. V.
EFFECTIVENESS OF REVACCINATION IN HERDS WITH A VARYING COURSE OF BRUCELLOSIS (Effektivnost' Revaktsinatsii v Stadakh s Razlichnym Techeniem Brutselleza). 30 June 61, 5p. Trans. V-1710.
Order from OTS or SLA $1.10 61-28146

Trans. of Leningrad[skii] Nauchno-Issledovatel'skii Veterinarnyi Institut. Byulleten' Nauchno-Tekhnicheskoi Informatsii (USSR) 1959, no. 7, p. 18-20.

DESCRIPTORS: *Cattle, Brucellosis, *Brucellosis vaccine, Animal industry, Veterinary medicine, Immunization.

Examples are cited showing that double use of the vaccine, with an interval of one-two years, under conditions of leaving the sick animals in the herds, does not provide for the restoration of health from brucellosis.

Schmidt, U.
PROPHYLAXIS AND COUNTERMEASURES AGAINST NEWCASTLE DISEASE (FOWL PLAGUE) IN EAST GERMANY. 4 Dec 61 [13]p. JPRS: 11285.
Order from OTS or SLA $1.60 62-19744

Trans. of Monatshefte für Veterinärmedizin (East Germany) 1961, v. 16, no. 11, p. 420-422.

DESCRIPTORS: *Newcastle disease virus, Preventive medicine, Countermeasures, *Birds, Plaque, Veterinary medicine.

Seidel, G.
THE QUESTIONABLE PREVAILING MEAT INSPECTION REGULATIONS FOR PREVENTION OF TUBERCULOSIS AND BRUCELLOSIS. 16 Mar 61 [36]p. JPRS: 4459.
Order from OTS or SLA $3.60 62-19714

Trans. of Deutsche Gesundheitswesen (East Germany) 1960, v. 15, no. 49/50, p. 2387-2403.

DESCRIPTORS: *Meat, Standards, *Tuberculosis, *Brucellosis, Public health, *Veterinary medicine, Preventive medicine.

The meat inspection regulations as concerns tuberculosis and brucellosis in slaughter animals as they stand today do not meet the requirements generated by the scientific advances in the field of meat sanitation, nor those of preventive medicine. We have proposed changes and we are stressing the fact that meat inspection in the future will become reoriented to go hand in hand with the sanitary care of livestock intended for slaughter in the light of the concept "the agricultural plant is a branch of the food industry", and that the zoonoses will be covered in such inspection. (Author)

Sibalic, S.
USE OF VACCINES IN PROTECTION OF ANIMALS AGAINST HELMINTOSES. 5 June 61 [6]p. JPRS: 8387.
Order from OTS or SLA $1.10 62-19367

Trans. of Veterinarski Glasnik (Yugoslavia) 1961, v. 15, no. 1, p. 71-73.

DESCRIPTORS: *Immunization, Animals, *Worms.

Voelker, H.
DISCOVERY OF A CASE OF ANTHRAX THROUGH BACTERIOLOGICAL INSPECTION OF MEAT. 8 Mar 61 [5]p. JPRS: 4436.
Order from OTS or SLA $1.10 62-19379

Trans. of Monatshefte für Veterinärmedizin (East Germany) 1960, v. 15, no. 24, p. 887-888.

DESCRIPTORS: *Anthrax, Meat, Animal industry, *Veterinary medicine, Bacteriological laboratories.

Plant Cultivation

Beletskaya, V.
ARTIFICIAL CLIMATE STATION (Stantsiya Iskusstvennogo Klimata). 21 Nov 61 [11]p. JPRS: 11179.
Order from OTS or SLA $1.60 62-13515

Trans. of Ogonek (USSR) 1961 [v. 39] Sep, p. 20-21.

DESCRIPTORS: *Agriculture, *Plants, *Climatic factors, Diseases.

Some of the findings of an artifical climate station are summarized that are of importance to agriculture. The presentation is in the manner of a newspaper or a popular journal, rather than that of a scientific journal. Some of the findings reported are that (1) a weak solution of zinc sulfate will aid the respiration of sugar beets, potatoes, tomatoes, and other plants and help them withstand heat and drouth; (2) a black current bush can be subjected to gradually increasing cold (to -253°C) and subsequently bloom and bear fruits; (3) a fungus of the genus "pitiumy" attacks cold weakened cucumber roots and produces a toxin that destroys early spring plantings; and (4) if germinating seeds are first allowed to swell and then dried slightly at about 20°C an internal reorganization occurs in the seeds, the metabolism increases and the protoplasm becomes more viscous and elastic, the plants become drouth resistant, and this acquired property is transmitted genetically to the next generation.

Grossheim, A. A.
EDIBLE PLANTS (Pishchevye Rasteniya). Apr 61 [46]p. RTS 1763.
Order from OTS or SLA $4.60 61-23145

Trans. of mono. Rastitel'noe Syr'e Kavkaza [Moscow] 1952, chap. 1, p. 13-47.

DESCRIPTORS: *Plants, *Food, Trees, Fruits, Carbohydrates, Vegetable oils, Seeds, Fats, Vegetables, Beverages.

Korostelev, I. Ya.
SEED PRODUCTION MUST BASE THE CERTIFICATION OF VARIETAL STANDS UPON SCIENTIFICALLY ELABORATED METHODS (Semenovodstvu Nauchno Obosnovannuyu Metodiku Aprobatsii Sortovykh Posevov). 2 Jan 62, 22p. 11 refs. Trans. A-1324.
Order from OTS or SLA $2.60 62-23297

Trans. of Vestnik Sel'skokhozyaistvennoi Nauki (USSR) 1961, v. 6, no. 7, p. 122-129.

DESCRIPTORS: *Seeds, Production, Quality control, Cereals, Agriculture.

Larin, I. V.
PASTURE ROTATION: SYSTEM FOR THE CARE AND UTILIZATION OF PASTURES, 3D ED REV., tr. by M. Raymist and J. Gale. 1962, 204p. 167 refs. PL-480 Agr.
Order from OTS $2.00 61-31194

Trans. of mono. Pastbishcheoborot: Sistema Ispol'zovaniya [3d ed. rev.] Moscow/Leningrad, 1960 [251p.].

DESCRIPTORS: Biology, *Grasses, Growth, Cattle, Nutrition, Fertilizers, Irrigation systems, Forestry, Geography, Climatic factors, *Agriculture.

The theoretical and economic principles are presented for the correct exploitation of pastures and the organization of pasture land. The influence is shown of the incorrect use of pastures (e.g., too frequent or

untimely grazing, lack of care, etc.) on the botanical composition and crop yield. Measures are suggested for raising the productivity of pasture lands. These include plot grazing and strip grazing, use of fertilizers, additional grass sowing and promoted self-seeding, and alternate use of pasture grounds for grazing and for hay growing. Pasture utilization is discussed for the various zones of the USSR (e.g., tundra, forest, steppe, desert, and mountain regions). The book was written for agronomists, livestock technicians, and agrarian planners.

Leenheer, L. de and Boodt, M. de.
PRACTICAL SIGNIFICANCE OF THE USE OF MASSIVE DOSES OF SUGAR LIME (AND SEVERAL OTHER PRODUCTS) FOR THE IMPROVEMENT OF SOIL STRUCTURE (Signification Pratique de l'Emploi de Doses Massives d'Ecume de Sucrerie (et de l'Emploi de Quelques Autres Produits) pour l'Amelioration de la Structure du Sol). [1961] [12]p.
Order from SLA $1.60 61-20482

Trans. of mono. International Symposium on Soil Structure [held in] Belgium, 1959. Proceedings, v. 29, p. 128-136.

DESCRIPTORS: *Soils, Acids, Physical properties, Stability, Carbohydrates, Calcium compounds, Oxides, Chemical reactions, Plants, Growth, Fertilizers, Beets.

The presence of an abundance of finely powdered calcium carbonate enables the sugar lime (a by product of the purification of beet juice) to bring about a maximum flocculation of soil colloidal particles in a minimum time. This flocculation stabilizes the soil against the dispersing action of rain drops. The presence of the protein rich organic material enhances microbial activity, and other organic materials favor the solubility of the calcium present. Good results are reported from using massive doses (50 or more tons of hectare) of sugar lime.

Pavlov, N. V.
PLANT RESOURCES OF SOUTH KAZAKSTAN. Apr 61 [34]p. (8 figs. omitted). RTS 1765.
Order from OTS or SLA $3.60 61-23143

Trans. of Materialy k Poznaniyu Fauny i Flory SSSR. Novaya Seriya. Otdel Botanicheskii, 1947, v. 3(11), p. 110-145.

DESCRIPTORS: *Plants, *Food, Fruits, Trees, Cereals, Seeds, Carbohydrates, Agriculture.

Rozanov, A. N.
THE SEROZEMS OF CENTRAL ASIA, tr. by A. Gourevitch. 1961, 541p. 451 refs. PL-480 Agr.
Order from OTS $5.50 60-21834

Trans. of mono. Serozemy Srednei Azii, Moscow, 1951 [459p.].

DESCRIPTORS: *Soils, *Asia, Geography, Genetics, Rock, Agriculture, Physical properties, Chemical properties, Fertility, Mountains, Deserts.

Contents:
The physico-geographical environment of the serozem zone in central Asia
The process of hypergenesis in the serozem zone
Genetical types of parent rock in the serozem zone
The soils of the serozem zone
Serozem as a soil type
The genesis and evolution of serozems
Agricultural capabilities of serozem
General conclusions.

Tsitsin, N. V.
NEW VARIETIES OF WHEAT [1961] 5p. TL 1152; DSIR NLL M 2227.
Order from OTS or SLA $1.10 61-13722

Trans. from Nauka i Zhizn' (USSR) 1953 [v. 20] no. 1

DESCRIPTORS: *Wheat, Cereals, Production, Agriculture.

ASTRONOMY

Bodner, V. A. and Seleznov, V. P.
ON THE THEORY OF UNPERTURBED SYSTEMS WITH THREE CHANNELS FOR COMPENSATING ACCELERATIONS DUE TO GRAVITATION FORCES (K Teorii Nevozmushchaemykh Sistem s Trema Kanalami Avtokompensatsii Uskorenii ot Sil Tyagoteniya). 6 Dec 61 [18]p. 1 ref. FTD-TT-61-65; AD-268 866.
Order from OTS or SLA $1.60 62-15401

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1960, no. 1, p. 76-85.
Another trans. is available from OTS $0.50 as 60-31740, JPRS-3843, 9 Sep 60, 17p.

DESCRIPTORS: Inertial guidance, Corrections, Gravity, Accelerometers, *Celestial mechanics, Space flight, Space navigation, Acceleration.

For abstract see Technical Translations 6: 28, 1961.

Fel'dshtein, Ya. I.
THE NIGHT LAYER E ACCORDING TO OBSERVATIONS AT THE OBSERVATORY ON DIKSON ISLAND Mar 62, 8p. 3 refs. NASA TT F-83.
Order from OTS $0.50 62-11608

Trans. of mono. [Issledovaniya Ionosfery i Meteorov: Sbornik Statei] (USSR) 1959, no. 3, p. 34-39.

DESCRIPTORS: *Ionosphere, *Night sky, Upper atmosphere, *Astronomical observatories, Reflection, Aurorae, Ionization, Magnetic fields, Probability, Sun, Illumination, Ultraviolet radiation, Geodetic astronomy, Astrophysics, Geophysics.

The regularities of occurrence of the night E layer (Enight) and of the sporadic layer E_{sr} are analyzed according to observations made with the automatic ionospheric station at Dikson from 1957-1958. The Enight layer appears most often during the evening and

morning hours of the winter months. A systematic time delay occurs for the maximum frequency of the E_{night} appearance in the morning hours during the months between summer and winter and, vice versa, an earlier occurrence of the evening maximum. The distribution of the probability of the appearance of E_{night} with critical frequency of the layer is considered. A comparison is made of the chance of appearance of the E_{night} and E_{sr} layers, and of their critical frequencies with the Q-index of magnetic activity. The steady existence of the E_{night} layer during a comparatively calm magnetic field indicates the continuous penetration of the corpuscular radiation into the aurorae zone. (Author)

Astrophysics

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO 29. 15 Feb 62, 38p. JPRS: 12445.
Order from OTS $16.00/year 61-11147-29
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, Meteorology, Oceanography, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 30. 1 Mar 62, 23p. JPRS: 12694.
Order from OTS $16.00/year 61-11147-30
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, Meteorology, Oceanography, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 32. 1 Apr 62, 25p. JPRS: 13225.
Order from OTS $16.00/year 61-11147-32
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, Meteorology, Oceanography, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 33. 15 Apr 62, 37p. JPRS: 13419.
Order from OTS $16.00/year 61-11147-33
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, Meteorology, Oceanography, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

Kalachev, P. D. and Salomonovich, A. E.
A 22-METER PARABOLIC REFLECTOR RADIO TELESCOPE FOR THE INSTITUTE OF PHYSICS, ACADEMY OF SCIENCES, USSR. 19 Sep 61 [13]p. 1 ref. MCL-1086.
Order from OTS or SLA $1.60 62-24410

Trans. of #Radiotekhnika i Elektronika (USSR) 1961, v. 6, no. 3, p. 422-429.

DESCRIPTORS: *Radio astronomy, *Telescopes, *Reflectors, Design, Construction, *Parabolic bodies.

Design data is given for a movable radio telescope with a 22-m parabolic reflector, which, on an 8 mm wave and a 3 db level, has a needle-shaped directional pattern of no more than 2 minutes of arc. A method is described for obtaining an accurate and sufficiently rigid reflecting surface assuring high resolution. A system of electric drives for the radio telescope allows a fast change in the orientation of the dish (with a speed up to 20° per min) as well as comparatively slow motions, which are required when tracking astronomical sources of radio emission. (Author)

Stanyukovich, K. P.
CONCERNING A CERTAIN EFFECT IN THE FIELD OF METEOR AERODYNAMICS (Ob Odnom Effekte v Oblasti Aerodinamiki Meterov) tr. by Joy B. Gazley. Jan 62 [16]p. 4 refs. Rand memo. RM-2932-PR; AD-270 232.
Order from OTS or SLA $1.60 62-15515

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Mekhanika i Mashinostroenie, 1960, no. 5, p. 3-8.
Another trans. is available from OTS $0.50 as 61-31592, NASA TT-F-70, Aug 61, 12p.; abstract trans. available from LC or SLA mi$1.80, ph$1.80 as 61-15665, AID-60-113, 23 Dec 60, 2p.

DESCRIPTORS: *Meteors, Meteorites, Thermodynamics, Impact shock, Atmosphere, Air, Molecules, Motion, Luminescence, Deceleration, Velocity, Energy, Aerodynamics, Vaporization, Heat transfer, Thermochemistry.

For abstract see Technical Translations 6:718, 1961.

BEHAVIORAL SCIENCES

Personnel and Training

ASTRONAUT CANDIDATES IN TRAINING. 22 Mar 61 [5]p. JPRS: 6978.
Order from OTS or SLA $1.10 62-19209

Trans. from Magyar Nemzet (Hungary) 1960, no. 306, p. 8.

DESCRIPTORS: *Astronauts, Training, Space flight, USSR.

CANDIDATES OF SCIENCE AT ESTABLISHMENTS OF THE SLOVAK ACADEMY OF SCIENCES. 28 Aug 61 [12]p. JPRS: 4924.
Order from OTS or SLA $1.60 62-19519

Trans. of Slovenska Akademia Vied. Vestnik (Czechoslovakia) 1960, v. 2, no. 2/3, p. 185-192.

DESCRIPTORS: *Scientific personnel, Personnel, *Czechoslovakia.

THE DIFFICULTIES CONFRONTING POLISH MEDICAL STUDENTS AND GRADUATES. 21 Feb 61 [7]p. JPRS: 6791.
Order from OTS or SLA $1.10 62-19349

Trans. of Sluzba Zdrowia (Poland) 1960, v. 12, no. 46, p. 4.

DESCRIPTORS: *Medical personnel, Personnel, Students, Training, *Poland, *Education.

Contents:
Statistics on students at the Warsaw Medical Academy, by Ewir
The problems of Poznan Medical Academy graduates, by M.

HUNGARIAN SCIENTIFIC PERSONALITIES. 6 June 60, 11p. JPRS: 3372.
Order from OTS or SLA $1.60 60-31233

Trans. of Magyar Tudomany (Hungary) 1959 [v. 4(66)] no. 11, p. 594-596, 611-612 and no. 12, p. 655-657, 665.

DESCRIPTORS: *Scientific personnel, Hungary.

TENTH ANNIVERSARY OF THE MILITARY MEDICAL ACADEMY. 10 Mar 61 [9]p. JPRS: 6890.
Order from OTS or SLA $1.10 62-19372

Trans. of Vojnosanitetski Pregled (Yugoslavia) 1960, v. 17, no. 4, p. 367-372.

DESCRIPTORS: *Military medicine, *Personnel, *Training, Medical research, Education, Universities

Contents:
Gosnjak's letter to the Military Medical Academy on its 10th Anniversary
Nikolis's editorial on the occasion of the tenth anniversary of the Military Medical Academy.

Dersi, Gyula and Suloky, Istvan.
REGULATION OF WAGES OF RESEARCH INSTITUTE PERSONNEL [AND] THE BAJA OBSERVATORY OF TERRESTRIAL MAGNETISM. 20 Dec 60 [7]p. JPRS: 6461.
Order from OTS or SLA $1.10 62-19230

Trans. from Muszaki Élet (Hungary) 1960, v. 15, no. 20, p. 11 and 16.

DESCEIPTORS: Scientific personnel, Personnel, *Professional personnel, *Wages, *Terrestrial magnetism, Magnetism, Magnetic laboratories, Hungary.

Putnoky, Gyula.
PROBLEMS OF POSTGRADUATE TRAINING AND QUALIFICATION OF MEDICAL SPECIALISTS. 11 Jan 62 [27]p. JPRS: 11904.
Order from OTS or SLA $2.60 62-19664

Trans. of Orvoskepzes (Hungary) 1961, v. 36, no. 1, p. 1-15.

DESCRIPTORS: *Medical personnel, Education, Training, *Hungary, Personnel.

Vajta, Laszlo.
ON THE REFORM OF THE TRAINING OF CHEMICAL ENGINEERS IN HUNGARY AND THE DEMANDS OF NATIONAL ECONOMIC PLANNING. 6 Mar 62 [7]p. JPRS: 12813.
Order from OTS or SLA $1.10 62-23401

Trans. of Magyar Tudomany (Hungary) 1961, v. 6[68] no. 6, p. 359-360.

DESCRIPTORS: *Chemical engineering, *Engineering personnel, Personnel, Training, *Hungary.

Psychology

ITALO-AMERICAN SEER SAYS HE TRAVELS TO THE STARS UNDER HYPNOSIS. 11 Jan 61 [9]p. JPRS: 6566.
Order from OTS or SLA $1.10 62-19226

Trans. from la Stampa Sera (Italy) 1955, 7-8 July, p. 5 and la Razon (Argentina) 1957, 11 July.

DESCRIPTORS: *Hypnosis, Mars, *Bioelectronics, Religion.

Italian and Argentine newspaper stories are presented that discuss the activities of a 70-year-old hypnotist, named Giovanni Mancuso (or Juan Mancuso), who has the ability to send his subject on "out-of-the-body" visits to practically any part of the world, and even to other planets. One possible reason why a Turin and a Buenos Aires newspaper would each be doing a story on Mr. Mancuso is that he resides part of the time in each city. The article (written by Furio Fasolo) from the Turin newspaper describes a session in Turin where the medium (his niece) was "sent" to San Remo in order to satisfy the curiosity of a lady who was present as to what her 6-year-old son was doing who was "the guest of a family of friends in San Remo." The story from the Buenos Aires paper repeats almost the same information as the earlier Turin story, and in addition it describes a session in which he sent his subject to Mars. On Mars she encountered flora like ours, saw mountains and rivers (with salty water), heard noises, saw many people and a great temple with much light, and got slapped by an invisible hand for asking what their religion was. A voice told her that no matter where she is there is only one God

Salamon, Jeno.
RESEARCH IN EDUCATIONAL PSYCHOLOGY IN EAST GERMANY. 23 May 61 [12]p. JPRS: 4637.
Order from OTS or SLA $1.60 62-19213

Trans. of Magyar Pszichologiai Szemle [sic] (Hungary) 1961, v. 18, no. 1, p. 61-67.

DESCRIPTORS: East Germany, *Education, *Group dynamics, *Applied psychology, Personality, Instructors, Students, Psychology.

Seredina, M. I.
SELECTIVE IRRADIATION OF EXTINGUISHING INHIBITION AT DIFFERENT AGE LEVELS. [1961] [17]p. 21 refs.
Order from OTS or SLA $1.60 62-13794

Trans. of [Akademiya Nauk SSSR]. Institut Vysshei Nervnoi Deyatel'nosti. Trudy. [Seriya Patofiziologicheskaya] 1956, v. 2, p. 88-98.

DESCRIPTORS: *Children, *Cerebral cortex, *Age factors, Auditory signals, Verbal behavior, Inhibition, Motor reactions, *Conditioned reflex, Reaction (Psychology).

In extinguishing motor conditioned reactions which had been elaborated to direct and verbal stimuli, all children are divisible into three groups according to the results obtained: In the first group, dynamic radiation of the inhibitory process from the first signal system to the second and vice versa, from the second signal system to the first, is not found. Extinguishing inhibition spreads only within the limits of the synthesis analyzer where the acute extinction of the conditioned association has been accomplished. This gives evidence of an inadequate, difficultly accomplished interaction of both signal systems. Children of the second group, after extinguishing the reaction to the direct stimulus, do not give a conditioned motor reaction to all verbal stimuli; the primary extinction of the conditioned reactions to verbal stimuli produces an inhibition of the motor reactions to all the direct stimuli, which gives evidence of the very extensive diffuse radiation of the inhibitory process between both signal systems. In children of the third group, after extinguishing the conditioned reaction to a stimulus addressed to the visual synthesis analyzer, an extinction is found of the conditioned reaction to the word designating this direct stimulus. The presence of one or another form of dynamic radiation of the extinguishing inhibition in the process of interaction between the first and second signal systems depends somewhat on the age of the child. (Author)

Simson, T. P.
INFECTION PSYCHOSES (Infektsionnye Psikhozy). 1960, 15p. 41 refs. RSTP no. 160-60.
Order from OTS or SLA $1.60 62-15070

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1956, v. 56, no. 5, p. 389-394.

DESCRIPTORS: *Psychoses, Infections, Mental diseases, Pathology.

Tagiev, Sh. K.
SYNTHESIS OF TWO DIFFERENT MOTOR CONDITIONED REFLEXES IN TO A CHAIN OF MOVEMENT IN FISHES, PIGEONS AND RABBITS. [1961] [8]p. (3 figs. omitted) 12 refs.
Order from OTS or SLA $1.10 62-13778

Trans. of #Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1958, v. 8, no. 3, p. 431-436.

DESCRIPTORS: Fishes, Pigeons, Rabbits, *Conditioned reflex, *Motor reactions, *Nervous system, Reflexes.

In response to a chain of stimuli composed of alternating (from 2 to 7 times) ordinary chains of conditioned signals, fishes, pigeons and rabbits reproduced a chain of movements corresponding to the signal significance of the alternating links in the chain. Synthesis of stimuli, which earlier were applied separately, in to a single chain took place. Rabbits and pigeons were capable of synthesizing a compound chain composed of 5-7 links, while fish were capable of synthesizing only 2 links. A two-way transformation of the significance of the 2 positive chains of stimuli in respect of the direction of conditioned reflex movement to the place of food reinforcement was accomplished in all the species of animals. In pigeons and rabbits, however, the transformation of reflexes was achieved much more quickly than in fish. Training of the mobility of the nervous processes was very evident in pigeons and rabbits during 3 repeated transformations of the signal significances of the stimuli in relation to the direction of the conditioned reflex movement and the place for the food-procuring reaction; such training did not occur in the fishes. The results indicate that the degree of development of the analyticosynthetic mechanisms of higher nervous activity is higher in rabbits than in pigeons, and higher in the latter than in fish.

Zvorykin, V. P.
MORPHOLOGICAL BASIS FOR THE INEQUALITY OF THE AUDITORY AND OPTICAL ANALYZERS IN THE BEHAVIOR OF DOGS AND MONKEYS.
25 Oct 61 [18]p. 48 refs. JPRS: 10671.
Order from OTS or SLA $1.60 62-13308

Trans. of Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1961, v. 41, no. 7, p. 28-37.

Portions of this report will not reproduce well.

DESCRIPTORS: *Hearing, *Vision, *Analyzers (Psychology), Psychology, Brain, Cerebral cortex, Conditioned reflex, Stimulation, Neuromuscular transmission, Dogs, Primates.

The unequal significance of the same analyzers (optical and auditory) in the life activity of dogs and monkeys is explained by the specific type of their morphology. Alternation of the "leading" analyzer does not correlate in dog and monkeys with the morphological characteristics of the cortical ends of analyzers, or their peripheral ends; the correlation is manifested on the example of the entire system of subcortical formations of their auditory and optical analyzers. At the base of morphological reconstruction, taking place upon alternation of the leading analyzer, lie mainly the quantitative changes (increase or reduction) of the systems of subcortical formations of corresponding analyzers. While the cortex does not correlate with the alternation of the leading analyzer, such a correlation is manifested in the finer properties of hearing and vision. In particular, monkeys with less acute hearing properties and a higher developed morphology of the acoustic cortex than in dogs, possess some qualitatively different acoustic properties which are unknown to such an extent neither in dogs, nor in bats. (Author)

BIOLOGICAL SCIENCES

Golubev, V. N.
ÜBER DIE STELLUNG DER HALBSTRÄUCHER IN DER EVOLUTIONSREIHE DER LEBENSFORMEN VON DEN BÄUMEN ZU DEN KRÄUTERN (On the Position of Shrubs in the Evolution Line of the Living Forms from the Trees to Herbs). 7p. (text in German).
Order from T.I.B. $1.55

Trans. from Botanicheskii Sad [Pushinskoe]. Byulleten' (USSR) 1960, no. 36.

DESCRIPTORS: *Plants, *Genetics, *Trees.

Nikol'skii, G. V.
SPECIAL ICHTHYOLOGY, 2D REV. ED., tr. by J. I. Lengy and Z. Krauthamer. 1961, 538p. 650 refs. Pl-480 Smi.
Order from OTS $5.50 60-21817

Trans. of mono. Chastnaya Ikhtiologiya, 2d rev. ed., Moscow, 1954 [468p.].

DESCRIPTORS: *Textbooks, *Fishes, Biology, Ecology, Classification, Distribution, Economics, *Marine biology, Bibliography.

This is a textbook for the study of systematic ichthyology in universities or in technical fishery colleges. The book is based on lectures given to students of ichthyology at the University of Moscow. Topics covered include the living habits of the most important individual groups and species of fish, the classification of fish, the evolution of the individual groups, and their distribution. Basic information is also given which may be needed for solving practical problems of the fishing industry. The biological data pertain mainly to commercial fish of the USSR and adjacent waters, but data on important fish groups found elsewhere are included. Particular attention is devoted to those groups that are of general biological interest. (Author)

Vladimirov, Yu. A. and Litvin, F. F.
USE OF THE PHOTOMULTIPLIER TO MEASURE FLUORESCENCE SPECTRA OF MODEL SYSTEMS AND LIVING OBJECTS (Primenenie Fotoamnozitelya dlya Izmereniya Spektrov Fluorestsentsii Model'nykh Sistem i Zivykh Ob'ektov). 25 Jan 62 [8]p. 19 refs. NIH no. 1-25-62.
Order from OTS or SLA $1.10 62-15797

Trans. of #Biofizika (USSR) 1958, v. 3, no. 5, p. 606-609.

DESCRIPTORS: *Photomultipliers, Fluorescence, Spectrographic analysis, Cells (Biology), Tissues (Biology), Biophysics.

Anatomy and Physiology

Aleshin, B. V.
ADVANCES OF SOVIET SCIENCE IN THE FIELD OF HISTOPHYSIOLOGY OF ENDOCRINE FUNCTIONS (Uspekhi Sovetskoi Nauki v Oblasti Gistofiziologii Endokrinnykh Funktsii). [1961] 18p. 1 ref. RSTP S-17.
Order from OTS or SLA $1.60 62-15086

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1957, v. 3, no. 5, p. 27-37.

DESCRIPTORS: *Endocrine glands, Hormones, Thyroid glands, Secretion, Nervous system, Conditioned reflex.

Anan'ev, V. M.
METHODS OF PHYSIOLOGICAL INVESTIGATIONS: ELECTROENCEPHALOSCOPE. [1961] 7p. (6 figs. omitted) 3 refs.
Order from OTS or SLA $1.10 62-15066

Trans. of Fiziologicheskii Zhurnal SSSR, 1956, v. 42, no. 11, p. 981-988.
Another trans. is available from OTS or SLA $1.60 as 61-28672, RTS-1948, Sep 61 [17]p.

DESCRIPTORS: *Electroencephalography, Medical equipment, Physiology.

Bakhur, V. A.
SOME QUESTIONS ON THE LOCALIZATION OF FUNCTIONS. [1961] 3p. 1 ref.
Order from OTS or SLA $1.10 62-15061

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1956, v. 56, no. 12, p. 967-968.

DESCRIPTORS: *Cerebral cortex, Physiology

Busyrev, A.
SCIENCE AND TECHNOLOGY IN THE WORLD. 11 Jan 62 [5]p. FTD-TT-61-255; AD-271 867.
Order from OTS or SLA $1.10 62-19259

Unedited rough draft from Sovetskaya Aviatsiya (USSR) 1959, no. 142(3312) p. 4, col. 3-4.

DESCRIPTORS: *Aviation medicine, Medicine, Aviation personnel, Flight surgeons, Training.

Ferber, Edvin.
STATE OF NUTRITION IN YUGOSLAVIA. 4 Jan 62, 9p. JPRS: 11822.
Order from OTS $0.50 62-11092

Trans. of Medicinski Glasnik (Yugoslavia) 1961 [v. 15] no. 3, p. 117-121.

DESCRIPTORS: *Nutrition, *Yugoslavia, Population, Physical fitness, Food, Proteins, Animals, Ascorbic acid, Diseases, Inhibition, Fruits, Vegetables.

Gertsberg, M. O.
CONCERNING E. K. SEPP'S ARTICLE ON THE LOCALIZATION OF FUNCTIONS IN THE CEREBRAL CORTEX. [1961] 8p. 9 refs.
Order from OTS or SLA $1.10 62-15060

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1956, v. 56, no. 12, p. 963-966.

DESCRIPTORS: *Cerebral cortex, Physiology

The article by Sepp (Zhurnal Nevropatologii i Psikhiatrii 56: 963-966, 1956) is entitled Localization of functions in the cerebral cortex. A translation is available from OTS as PB 141 267T.

Hubener, H. J. and Schmidt, J. G. H.
THE EASE OF SAPONIFICATION OF VARIOUS STEROID HORMONE ESTERS BY LIVER AND ESTERASES. [1962] 10p.
Order from ATS $15.40 ATS-30P60G

Trans. of Hoppe-Seyler's Z[eitschrift für] Physiol[ogische] Chem[ie] (West Germany) 1954, v. 296, p. 246-256.

DESCRIPTORS: *Saponification, *Steroids, *Hormones, Esters, *Liver, *Serum, *Esterases.

Kalinichenko, T. Ya.
URINARY LEVELS OF PREGNANEDIOL IN WOMEN WITH DYSTOCIA (Riven' Pregnandiolu v Sechi u Zhinok pri Slabosti Rodovoi Diyal'nosti). 1960, 7p. RSTP Ab-391-60.
Order from OTS or SLA $1.10 62-15077

Trans. of Pediatriya, Akusherstvo i Ginekologiya (USSR) 1957, no. 2, p. 46-48.

DESCRIPTORS: *Women, *Childbirth, *Urine, *Pregnancy, *Steroids, *Pregnanediols

The highest level of pregnanediol excreted in the urine is observed at the end of the ninth month of pregnancy. It varies within the limits of 8.2 to 15 mg per liter of urine. The level of pregnanediol is markedly reduced prior to delivery. In delayed labor, the excretion of pregnanediol reaches much higher levels. In delayed pregnancy and in primary uterine dystocia it is very important to determine the amount of pregnanediol in the urine of the pregnant woman. This permits early stimulation of labor by means of creating a folliculin background. The gradual and increasing saturation of the organism of the pregnant woman with estrogens is more effective in normalizing birth activity than the single administration of estrogens, however large the dose. While creating a folliculin background it is necessary to follow the reduction in the level of pregnanediol. This permits regulation of the administration of estrogens to the pregnant woman. (Author)

Khayutin, V. M.
THE EFFECTOR STRUCTURE AND FUNCTIONAL SIGNIFICANCE OF THE PRESSOR REFLEXES (Effektornaya Struktura i Funktsional'noe Znachenie Pressornykh Refleksov). 3 Nov 61 [16]p. (foreign text included) 20 refs. [NIH] no. 11-4-61.
Order from OTS or SLA $1.60 62-13503

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1961, [v. 16] no. 5, p. 70-78.

DESCRIPTORS: *Circulatory system, Blood circulation, Stimulation, *Reflexes.

The hypothesis is advanced that the blood supply of each organ and the intensity with which it is functioning are automatically balanced, since the activation of the motor or secretory fibers as well as the stimulation of certain specific cells of the organ itself have this combined effect that tissue metabolites are released causing vasodilatation. When the functional hyperemia exceeds certain limits, the metabolite concentration increases until it begins to affect the receptors like a stimulus. The afferent signals which are elicited trigger a local vasodilatatory reflex. Since the connections existing are predominantly of a reflector nature, it involves primarily the vessels of the organ in question. Inasmuch as it reduces for the same reason the range of the chemoregulatory system, this reflex prevents at the same time a drop in arterial pressure. In the light of this hypothesis, the function of the tissue receptors is to maintain the proper balance between the local metabolic and the general hemodynamic functions of the cardiovascular system. According to the hypothesis, the mechanism of pressor reflexes is the same, but its effects are magnified by stimuli exceeding the physiological possibility limits.

Kozhevnikov, V. A.
SOME PROBLEMS IN MEASURING THE ANALYZING ELECTROENCEPHALOGRAMS AND THE THEORY OF INFORMATION. [1961] 20p. 16 refs.
Order from OTS or SLA $1.60 62-15047

Trans. of #Fiziologicheskii Zhurnal SSSR, 1957, v. 43, no. 10, p. 983-994.

DESCRIPTORS: *Electroencephalography, *Brain, Information theory, Physiology.

Kupalov, P. S.
PHYSIOLOGICAL ORGANIZATION OF THE PROCESSES OF EXCITATION AND INHIBITION IN THE CEREBRAL CORTEX DURING CONDITIONED REFLEX ACTIVITY. [1961] [13]p. (4 figs. omitted).
Order from OTS or SLA $1.60 62-15055

Trans. of Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1955, v. 5, no. 4, p. 463-473.

DESCRIPTORS: *Cerebral cortex, Excitation, Inhibition, Conditioned reflex.

Leites, S. M. and Eskin, I. A.
FORTY YEARS OF SOVIET EXPERIMENTAL ENDOCRINOLOGY (Sovetskaya Eksperimental'naya Endokrinologya za 40 Let). [1961] 24p. RSTP S-27.
Order from OTS or SLA $2.60 62-15082

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1957, v. 3, no. 5, p. 12-26.

DESCRIPTORS: *Endocrine glands, Physiology, Hormones, Secretion, Metabolism

Nikitin, V. N.
RUSSIAN STUDIES ON AGE-ASSOCIATED PHYSIOLOGY, BIOCHEMISTRY, AND MORPHOLOGY. 1961, 203p. 2953 refs. Public Health Service pub. no. 857.
Order from GPO $0.60 GPO FS 2.22:Ag3

Trans. of mono. Otechestvennye Raboty po Vozrastnoi Fiziologii, Biokhimii i Morfologii: Istoricheskii Ocherk i Bibliografiya, Khar'kov, 1958, 201p.

DESCRIPTORS: Age factors, *Aging, *Physiology, *Biochemistry, *Morphology, History, *Bibliography.

Professor V. N. Nikitin, USSR, has provided a comprehensive review of Russian studies and theories of age-associated physiology, biochemistry, and morphology spanning the years 1761 to 1958. With its almost 3,000 references it is a document of significant historical interest. For this reason it is being made available to all those engaged in aging research in this country. (Joseph H. Gerber. M. D., Director of the Center for Aging Research Division of General Medical Sciences National Institutes of Health)

Pauli, Hans-Georg.
THE RESOLUTION CAPACITY OF THE HUMAN EYE [1961] [6]p.
Order from SLA $1.10 62-14210

Trans. of Bild und Ton (Germany) 1955, v. 8, no. 2, p. 34-[35].

DESCRIPTORS: *Eye, Optical images, Retina, Dark adaptation, Light adaptation, Diffraction, Brightness, Perception, Optics, Physiology.

Pavlova, E. B.
EFFECT OF THE GLANDS OF INTERNAL SECRETION ON HIGHER NERVOUS ACTIVITY: REVIEWS AND DISCUSSIONS (Obzory i Diskussii, Vliyanie Zhelez Vnutrennei Sekretsii na Vysshuyu Nervnuyu Deyatel'nost'). [1961] [10]p. [NIH]-93.
Order from OTS or SLA $1.10 62-15127

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1955, v. 1, no. 5, p. 95-109.

DESCRIPTORS: *Endocrine glands, Secretion, *Nervous system, Cerebral cortex, Conditioned reflex.

Pereobrazhenskaya, N. S.
CERTAIN ASPECTS OF THE PROBLEM OF LOCALIZATION OF FUNCTION. [1961] 8p. 13 refs.
Order from OTS or SLA $1.10 62-15059

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1957, v. 57, no. 6, p. 706-711.

DESCRIPTORS: *Cerebral cortex, Physiology.

In the phylogenetic process, the brain of mammals and particularly of the primates developed new formations out of the cortical structures existing earlier. There arose the so-called phylogenetically new fields bringing with them their functional refinements. At the same time, the complication of man's brain structure did not come about through a simple superstructure of separate fields but by means of refinement of the structure of he entire brain. All the fields found in man's brain exist in less refined form in the primates, and particulary in the higher apes. The peculiarly constructed cortical endings of various analyzers, particularly complex in man, are a sort of mophological canvas against which the activity of the two signal systems arises. The second signal system is the result of a higher differentiation of cortical structure and function conditioned by the preceding evolution of man's brain under the influence of his social environment, and highly specialized for various analyzers. At the same time, the activity of the second signal system is also conditioned by the emergence of subtly differentiated, phylogenetically new cortical formations which are functionally bound up with the activity of not one but several analyzers.

Sarkisov, S. A.
DISCUSSION ON THE LOCALIZATION OF FUNCTIONS. [1961] 17p. 27 refs.
Order from OTS or SLA $1.60 62-15062

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1957, v. 57, no. 6, p. 681-693.

DESCRIPTORS: *Cerebral cortex, Physiology

Timofeeva, T. E.
A TELEELECTROCARDIOGRAPHIC DEVICE. 8 Dec 61 [10]p. JPRS: 11349.
Order from OTS or SLA $1.10 62-13672

Trans. of Meditsinskaya Promyshlennost' SSSR, 1961, v. 15, no. 7, [p. 46-50].

DESCRIPTORS: *Electrocardiography, *Medical equipment.

A wireless apparatus for recording electrocardiograms of a free-moving person is described. Biopotentials of the heart are taken from the surface of the subject's body by means of electrodes.

Trubetskoi, A. V.
HUMORAL ISOLATION OF THE HEART AS A METHOD OF INVESTIGATING THE CORONARY CIRCULATION (Gumoral'naya Izolyatsiya Serdtsa kak Metod Issledovaniya Venechnogo Krovotoka). 26 Oct 61 [7]p. 8 refs. JPRS: 10752.
Order from OTS or SLA $1.10 62-13251

Trans. of Eksperimental'naya Khirurgiya i Anesteziologiya (USSR) 1961, v. 6, no. 3, p. 23-26.

DESCRIPTORS: *Heart, *Blood circulation, Blood vessels, Physiology, Hypercapnia, Anoxia, Reflexes, Autonomic nervous system.

The method proposed makes it possible to study various influences on the cardiovascular system of the heart under conditions of different degrees of hypoxia, hypo- and hypercapnia and other factors changing the reactivity of the coronary blood vessels. In the presence of various influences on the central nervous system or vascular periphery it is possible to investigate the change in the activity of centers controlling the cardiac activity and influencing the coronary blood vessel tone. The method makes it possible also to study the heart as a reflexogenic area. (Author)

Vasyukova, E. A. and Khavin, I. B.
FORTY YEARS OF SOVIET CLINICAL ENDOCRINOLOGY (Sovetskaya Klinicheskaya Endokrinologiya za Sorok Let). [1961] 13p. 8 refs.
Order from OTS or SLA $1.60 62-15091

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1957, v. 3, no. 5, p. 49-56.

DESCRIPTORS: *Endocrine glands, Diseases, Diagnosis

Vasyukova, E. A.
LINES OF 40 YEARS' DEVELOPMENT OF ENDOCRINOLOGY IN THE USSR (Puti Razvitiya Endokrinologii v SSSR za 40 Let). [1961] 14p. RSTP S-38.
Order from OTS or SLA $1.60 62-15080

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1957, v. 3, no. 5, p. 3-11.

DESCRIPTORS: *Endocrine glands, Secretion, Physiology.

Vinitskaya, R. S.
EFFECT OF A TRAUMATIC INJURY OF THE HYPOTHALAMUS ON INTEROCEPTIVE REFLEXES [Vliianie Travmy Gipotalmusa na Interotseptivnye Refleksy]. [1961] [1961] 13p. (6 figs. omitted) 21 refs.
Order from OTS or SLA $1.60 62-15056

Trans. of Voprosy Fiziologii Interotseptsii (USSR) 1952, v. 1, p. 152-166.
Another trans. is available from SLA as RT-1230.

DESCRIPTORS: *Hypothalamus, Brain, *Surgical trauma, Analysers (Psychology).

Experiments on cats showed that trauma of the hypothalamus induces a sharp change in the reflexes from the interoceptors (chemoreceptors and mechanoreceptors of the small intestine, mechanoreceptors of the large intestine and of the carotid sinus). The blood-pressure reflexes increase 1.5 to 5 times, and the respiratory reactions change. However, the viscero-visceral reflexes (of the motor action of the intestine and bladder) show no substantial changes. Trauma of the temporal lobe of the cerebral cortex, which has a direct connection with the hypothalamus, gives a result resembling that of damage to the hypothalamus itself. The same thing is observed with destruction in the optic tract and the brain stem. When destruction of the temporal lobe of the cerebral cortex is combined with that of the hypothalamic region, the reflexes from all the receptor fields are changed to the same extent, but with localized trauma only some of these reflexes are increased, while the other remain unchanged or diminish. With trauma of the parietal or occipital lobes, the interoceptive reflexes remain unchanged. This indicates that the changes in the reflexes are due entirely to the damage to the hypothalamic region and its nerve connections. It is postulated that at the instant of the destruction of this region streams of impulses arrive at the medulla oblongata and modify the reflex excitability of the centers of this tract. (Author)

Voino, M. S.
CYTO-AND MYELOARCHITECTONIC CHARACTERISTICS OF SECTIONS OF THE MOTOR AREA IN HUMAN POSTNATAL ONTOGENY (Tsito- i Mieloarkhitektonicheskie Osobennosti Polei Dvigatel'noi Oblasti v Postnal'nom Ontogeneze Cheloveka). 23 Oct 61 [26]p. 19 refs. JPRS: 10653.
Order from OTS or SLA $2.60 62-13029

Trans. of Voprosy Antropologii (USSR) 1960, no. 3, p. 12-32.

DESCRIPTORS: *Brain, Cells (Biology), Tissues (Biology), *Age, Growth, *Cerebral cortex.

A comparison was made of the development of the cyto- and myeloarchitectonicsin the postnatal ontogeny of the motor area of the human cerebral cortex. In each brain an investigation was made of six sections of the motor cortex on the medial and dorso-lateral surfaces of both sides, whereby various cortical levels were described for area 6 individually in its upper, middle and lower thirds. The descriptive characterization was accompanied by certain numerical indices. A measurement was made of the width of the cortex as a whole and by layers, which made it possible, by comparing cellular and fibrillar preparations, to elucidate the extent of radial myelinated fibers of different ages. The number of radial myelinated fibers per unit area and the number of radial bundles were calculated: their thickness and the distances between them were measured. The data obtained was subjected to further statistical treatment. A study was then made of seven postnatal ages: two weeks (male), three weeks (female), one-and-a-half months (male), four months (female), six months (female) and nine months (female), one-year-and-three-months (female). and adult (male).

Biochemistry

Avundzhyan, E. S.
VARIATIONS IN THE COMPOSITION OF THE FREE AMINO ACIDS IN THE ROOTS AND SAP OF POLYGONUM ORIENTALE IN THE DIFFERENT DEVELOPMENT PHASES (Ob Izmenenii Sostava Svobodnykh Aminokislot v Kornyakh i Pasoke Grechikhi po Fazam Razvitiya) tr. by M. Slade. [1961] [24]p. (foreign text included) 39 refs. [CSIRO]
Trans. no. 5371.
Order from OTS or SLA $2.60 62-13603

Trans. of Akademiya Nauk Armyanskoi SSR [Erevan]. Izvestiya. Biologicheskie [i Sel'skokhozyaistvennye] Nauki, 1960, v. 13, no. 2, p. 3-16.

DESCRIPTORS: *Amino acids, *Plants, Synthesis, Organic compounds, *Proteins, Hydrolysis, Metabolism, Paper chromatography.

The sap of polygony plants at different stages of development contain a number of amino acids which are metabolic products of the imbibing and conducting portions of the roots. The greatest number of amino acids (14) are present in the sap in the flowering phase, and the smallest number (2) in the phase of yellowing of the leaves. The composition of free amino acids in the imbibing and conducting root portions and in the sap of plants in the different phases of their generative development changes considerably with the length of time for which exudation of sap by the roots has continued. The largest number of amino acids are present in the roots on the first or second day and in the sap on the second or third day after the plants were cut. Aspartic and glutamic acid and α-alanine are almost invariably present in the roots and sap of polygony, whatever the developmental phase and the length of exudation of sap. (Author)

Brugsch, Joachim.
PORPHYRINS, tr. by P. Hajdu. 29 Dec 59, 7p.
Order from OTS or SLA $1.10 60-13417

Trans. of mono. Porphyrine, Leipzig, 1952, p. 121-124.

DESCRIPTORS: *Porphyrins, Fluorescence, Inhibition, Spectrographic analysis, Pigments, Chlorophylls.

Grzesik, J., Jozkiewicz, S. and others.
STUDIES ON THE EFFECT OF ACOUSTIC AND ULTRASONIC FIELDS ON BIOCHEMICAL PROCESSES (Wplyw Pola Akustycznego i Ultraakustycznego na Procesy Biochemiczne). 24 July 61 [7]p. 18 refs.
JPRS: 9675.
Order from OTS or SLA $1.10 62-19381

Trans. of Acta Physiologica Polonica, 1961, v. 12, no. 1, p. 129-132.

DESCRIPTORS: *Acoustics, *Ultrasonic radiation, Pathology, *Biochemistry, *Transaminases, *Liver, Physiology, Enzymes, *Aldolase.

Male guinea pigs were subjected to strong ultrasonic fields for 30 minutes a day and the activity of the glutamic-oxalacetic transaminase (GOT) and aldolase (ALD) enzymes in their blood sera was compared with that of unexposed control animals. Thirty minutes after the first exposure the GOT activity was slightly increased (i.e., slightly above that of the control animals) and the ALD activity was slightly decreased. After 24 exposures the activity of both enzymes was almost 100% above normal (i.e., almost twice that of the controls). The exposures were discontinued and 8 days later the GOT activity had decreased until it was only about 80% above normal: the ALD activity had decreased slightly, although it still remained at almost twice the level of the control animals. Some 24 days after the exposures were discontinued the GOT activity had decreased almost to normal. The ALD activity had also decreased, although it was still about 50% above normal. These results suggest a temporary dysfunction of the liver under the influence of strong acoustic or ultrasonic shock.

Kaverzneva, E. D.
SYNTHESIS OF PROTEIN. 22 Dec 61 [18]p.
JPRS: 11619.
Order from OTS or SLA $1.60 62-13858

Trans. of Priroda (USSR) 1961 [v. 50] no. 9, p. 41-47.

DESCRIPTORS: *Proteins, *Synthesis, Nuclear structure, Biochemistry.

Manskaya, S.M. and Bardinskaya, M.S.
AROMATIC COMPOUNDS OF THE CELL WALL OF SPHAGNUMS (Aromaticheskie Soedineniya Kletochnoi Obolochki Sfagnovogo Mkha) tr. by V. N. Pavloff. 1961, 8p. 20 refs. NRCC Technical Trans. 992.
Order from NRCC $0.50 NRCC C-3843

Trans. of Biokhimiya (USSR) 1954, v. 19, no. 3, p. 332-335.

DESCRIPTORS: *Peat, Cells (Biology), *Organic compounds, *Lignin, Determination, Fluorescence, Oxidation, Aldehydes, Ultraviolet spectroscopy, Biochemistry, *Mosses.

Portugalov, V. V. and Zbarskii, I. B.
PROBLEMS OF CYTO-AND HISTOCHEMISTRY.
29 Nov 61 [5]p. JPRS: 11378.
Order from OTS or SLA $1.10 62-13660

Trans. of Akademiya Nauk SSSR. Vestnik, 1961 [v. 31] no. 4, p. 130-131.

DESCRIPTORS: *Histology, Biochemistry, History.

Topics are noted of papers that were presented at a conference conducted on 19-21 December 1960. Names of some of the speakers are given.

Tsyperovich, A. S.
DENATURATION OF GLOBULAR PROTEINS. [1961]
65p. 145 refs. [NIH] no. 60.
Order from OTS or SLA $6.60 62-15132

Trans. of Uspekhi Khimii (USSR) 1956, v. 25, no. 9, p. 1173-1193.

DESCRIPTORS: *Proteins, Chemical reactions, Biochemistry, Structures, Transformations, Molecular structure.

General Biology

Neuhaus, M. E.
A CYTOGENETIC STUDY OF THE Y-CHROMOSOME IN DROSOPHILA MELANOGASTER (Tsitogeneticheskoe Issledovanie Y-Khromosomy Drosophila Melanogaster). 1962, 26p. 34 refs. PL-480 HEW.
Order from OTS $0.50 61-11485

Trans. of Biologicheskii Zhurnal (USSR) 1938, v. 7, no. 2, p. 335-358.

DESCRIPTORS: *Genetics, *Histology, *Chromosomes, Spermatogenesis, Fertility, *Drosophila.

A comparative study of seven characters of XY, and XY^L, XY^S males was carried out. The median vein in the XY^L and XY^S males is significantly shorter than in the XY males. The difference is not significant for the other characters. For obtaining the coefficient of racial likeness the experimental material was treated according to Pearson's formula (1926). It is shown that there is a much greater difference between the XY and XY^L than between XY and XY^S males. Combinations of various Y-IV translocations have shown that in the long as well as in the short arm of the Y-chromosome there are located not less than five of the genes complementarily acting at one of the stages of spermatogenesis. The long arm of the Y-chromosome contains not less than one fertility gene, which has a homologue near the bb gene of the X-chromosome. (Author)

Office of Technical Services, Dept. of Commerce, Washington, D. C.
PARASITOLOGY, PARASITES, AND PARASITIC INFECTIONS (ANIMAL, INCLUDING HUMAN).
Apr 62, 22p. 372 refs.
Order from OTS SB-495 $0.10 OTS SB-495

DESCRIPTORS: *Parasitology, Parasites, *Parasitic infections.

List 372 domestic and foreign references on parasitology, parasites, and parasitic infections added to the OTS collection up to May 1, 1962. Includes reports on parasitology and parasites (general); helminths (general, and specific: trematodes, cestodes, nematodes, acanthocephala); arthropods (ticks, mites, diptera, lice, fleas, flies, etc.); protozoa (plasmodium, leishmania trypanosoma, coccidia, toxoplasma, piroplasma, etc.); parasitic infections (general, and specific: echinochasmosis, fascioliasis, leishmaniasis, malaria, piroplasmosis, sarcosporidiosis, schistosomiasis, tick-borne encephalitis, toxoplasmosis, etc.)

Panshin, I. B.
THE CYTOGENETIC NATURE OF THE POSITION EFFECT OF THE GENES WHITE (MOTTLED) AND CUBITUS INTERRUPTUS (Tsitogeneticheskaya Priroda Effekta Polozheniya Genov White (mottled) i Cubitus Interruptus). 1962, 33p. 31 refs. PL-480 HEW.
Order from OTS $0.50 61-11486

Trans. of Biologicheskii Zhurnal (USSR) 1938, v. 7, no. 4, p. 837-865.

DESCRIPTORS: *Genetics, *Cells (Biology), *Histology, Chromosomes, Eye, Colors, Eye pigments.

The position effect of the w gene of the w^{mt} type is caused by the junction of the w gene with the heterochromatic regions of the chromosomes. The breaks occurring in X-rayed w^{mt} II chromosomes, which cause the removal of the w gene from the heterochromatic IVR region, cause a reversion from the w^{mt} character to normal or almost normal eye coloration. Thus, the change of function of the w gene, caused by heterochromatic regions, is reversible and is in consequence a typical case of a position effect of the gene. The manifestation of variegation in different w^{mt} alleles, obtained by irradiating the w^{mt} stock, depends on the quantity of heterochromatin connected with the w gene within the chromosome. (Author)

Medical Specialties and Equipment

Kassirskii, I. A.
THE NERVOUS SYSTEM AS AN INTEGRATED WHOLE. 14 Nov 61 [9]p. JPRS: 11095.
Order from OTS or SLA $1.10 62-13354

Trans. of Zdorov'e (USSR) 1961, v. 7, no. 3, p. 3-5.

DESCRIPTORS: *Nervous system, Cebral cortex, Diseases, Neuropsychiatry, Anxiety, *Psychosomatic medicine.

A clinical physician relates the unity of the nervous processes which occur in the organism of man, and shows how the knowledge of physiology in the nervous system can aid people in living rationally and in improving their health.

Wrede, Heinz.
LIQUID ABSORBING BANDAGING MATERIAL, tr. by J. B. 15 Dec 61, 4p.
Order from OTS or SLA $1.10 62-13873

Trans. of German patent 714,870, cl. 30i, gr. 8/01, by Rudolph Koepp & Co. Chemische Fabrik AG, pat. from 15 Nov 39, granting announced 13 Nov 41, pub. 9 Dec 41.

DESCRIPTORS: *Liquids, *Absorption, *Cellulose ethers, Synthetic fibers, Medical equipment.

Microbiology

Baroyan, O. V. and Gailonskaya, I. N.
PRACTICAL IMPORTANCE OF SPREAD OF VACCINE STRAIN OF POLIOMYELITIS VIRUS AMONGST CONTACTS WITH INOCULATED PERSONS. [1961] [11]p. 6 refs.
Order from OTS or SLA $1.60 62-13949

Trans. of #Voprosy Virusologii (USSR) 1960, v. 5, no. 5, p. 532-537.

DESCRIPTORS: *Poliomyelitis virus, Virus vaccines, Microbiology.

The time of spread of the vaccine virus with use of live poliomyelitis vaccine in the environment of immunized persons is very limited; as the contacts become further removed from the vaccinated persons it subsides naturally and therefore, the danger of repeated passages and the possibility as a result of enhancement of neurotropism in the vaccine strains has apparently no practical significance. In this respect our observations were limited to the period of vaccination process (a month) and subsequent study of this problem for the 11 months of the post-vaccinal period. (Author)

Basova, N. N., Chernikova, T. M. and others.
Q FEVER AND ORNITHOSIS IN WILD BIRDS. [1961] [13]p. 13 refs.
Order from OTS or SLA $1.60 62-13952

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 586-591.

DESCRIPTORS: *Birds, *Q fever, Infections, Viruses, Antibodies, Detection, Rickettsia.

The frequent detection of antibodies in the sera of mammals and birds and of rickettsia in the body of ticks and certain feathered animals indicates the wide distribution of Q fever in Nature. The antigenic structure of the strains of the Q fever agent from different countries is uniform. This confirms that circulation of the rickettsia responsible for Q fever in Nature is by the transmissive route. Infections characterized by different mechanisms of spread have as their agents organisms of less uniform antigenic structure. Detection of the rickettsia responsible for Q fever or of antibodies to them in warm-blooded animals and arthropods does not demonstrate that the particular living creatures contribute to maintaining the agent in Nature or to infection of humans. The frequent detection of antibodies to the ornithosis virus in the sera of wild birds provides evidence of the considerable dissemination of this virus in Nature. (Author's Conclusion)

Dzagurov, S. G., Safonov, G. A. and others.
USE OF SOVIET AGAR FOR OBTAINING PLAQUES (COLONIES) OF POLIOMYELITIS VIRUS. [1961] [4]p. 4 refs.
Order from OTS or SLA $1.10 62-13958

Trans. of #Vopr[osy] Virusol[olgii] (USSR) 1960, v. 5, no. 5, p. 632-633.

DESCRIPTORS: *Poliomyelitis virus, *Culture media, Viruses, Microorganisms.

Purification of Soviet agar by the proposed method may be used for obtaining poliomyelitis virus plaques. The quality of purified Soviet agar is not inferior to that of Difco agar. (Author)

Dzhavadov, R. B.
P. F. ZDRODOVSKII AND AZERBAIJAN. [1961] 4p.
Order from OTS or SLA $1.10 62-13939

Trans. of #[Voprosy Virusologii (USSR) 1960, v. 5, no. 5, p. 636-637].

DESCRIPTORS: *Medical personnel, Medical research

Kiktenko, V. S., Safronov, Yu. P. and others.
AN APPARATUS FOR THE AUTOMATIC COUNTING OF BACTERIAL AEROSOL PARTICLES (Ustanovka dyla Avtomaticheskogo Podscheta Chastits Bakterial'nogo Aerosolya). 4 Dec 61 [8]p. 4 refs. JPRS: 11238.
Order from OTS or SLA $1.10 62-13525

Trans. from Laboratornoe Delo (USSR) 1961, v. 7, no. 10.

DESCRIPTORS: *Bacterial aerosols, Counting methods, Electron microscopes, Automatic, Microscopes.

An apparatus is described which permits automatic counting of the number of bacterial aerosol particles passing through the cell compartment of the type VDK flow ultramicroscope. The apparatus consists of the photoelectron attachment for the ultramicroscope a pulse amplifier and counter, and power-supply source.

Petrov, V. G.
EXPERIMENTAL STUDY OF DERMACENTOR MARGINATUS SULZ. AND RHIPICEPHALUS ROSSICUS JAK. ET K. JAK. TICKS AS VECTORS OF TULAREMIA (Eksperimental'noe Izuchenie Kleshchei Dermacentor Marginatus Sulz. I Rhipicephalus Rossicus Jak. et Jak. Kak Perenoschikov Tulyaremii). 1960 [18]p. 7 refs. RSTP T-11-60.
Order from OTS or SLA $1.60 62-15089

Trans. of mono. Voprosy Epidemiologii i Profilaktiki Tulyaremii (Problems of Epidemiology and Prophylaxis of Tularemia) Moscow, 1958, p. 117-123.

DESCRIPTORS: *Tularemia, *Ticks, Infections, Animals, Transmission, Microorganisms.

Dermacentor marginatus and Rhipicephalus rossicus ticks which had been infected in the larval stage are capable of transmitting the tularemic infection to susceptible animals also in their subsequent stages of development. The transmission may be accomplished by a single nymph or by a single sexually-mature tick. Larvae of both species of ticks can also transmit the infection from a sick to a healthy animal by means of interrupted feeding. Transmission of the infection by ticks occurs both by means of feeding on an animal and through the latter's eating the infected ticks. The transmission of infection is also possible through tick excreta. Proliferation of tularemia bacteria in D. marginatus and Rh. rossicus ticks is not uniform in the course of their metamorphosis. Feeding of the ticks (nymphs or sexually-mature individuals) is accompanied by an increase in the number of bacteria, the process of molting, by a decrease; and, when they are not adequately infected, individual ticks may become entirely free of bacteria during the period of molting from one stage into the next (particularly, from larva to nymph). D. marginatus and Rh. rossicus ticks are not indifferent to infection with tularemia bacteria. The greatest mortality in both species is observed in the nymph stage, when vulnerability of the ticks increases with the degree of their infection. (Author)

Ryzhkov, V. L.
SO-CALLED INFECTIVE HEREDITY IN BACTERIA. [1961] 11p. 12 refs.
Order from OTS or SLA $1.60 62-13954

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 515-520

DESCRIPTORS: *Bacteria, Genetics, Infections.

Stakhanova, V. M.
RESPIRATORY VIRUSES OF HORSE, SWINE AND DUCK AND THEIR RELATION TO THE HUMAN INFLUENZA VIRUS. [1961] 12p. 13 refs.
Order from OTS or SLA $1.60 62-13953

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 568-572.

DESCRIPTORS: *Influenza viruses, Man, *Respiratory diseases, Horses, Swine, Birds, *Viruses.

Antigenic affinity of the duck and horse influenza viruses was demonstrated only in the complement-fixation test. In the haemagglutination-inhibition test and the neutralization test no evidence was given of the presence of common antigens in these viruses and the human influenza viruses nor in the duck, horse and swine viruses. Both strains of the duck virus (English and Czechoslovak) are allied but not identical. (Author)

Zavarzin, G. A.
POSSIBILITY OF HETEROTROPHIC EXCHANGE IN NITRIFYING BACTERIA. [1961] 23p. 48 refs. [NIH] no. 117.
Order from OTS or SLA $2.60 62-15117

Trans. of Mikrobiologiya (USSR) 1956, v. 25, no. 5, p. 619-628.

DESCRIPTORS: *Bacteria, *Nitrogen, Nutrition, Metabolism, Morphology, Culture, Identification, Microorganisms, Bibliography.

The materials presented by V. O. Kalinenko in his article "Does chemosynthesis occur in the iron-depositing bacteria and the nitrifying bacteria?" seem to us inadequate. (Author)

Pathology

DATA ON THE GDANSK MEDICAL ACADEMY AND THE WARSAW INSTITUTE OF TUBERCULOSIS. 27 Feb 61 [7]p. JPRS: 6830.
Order from OTS or SLA $1.10 62-19343

Trans. of Sluzba Zdrowia (Poland) 1960, v. 12, no. 43, p. 1 and 4.

DESCRIPTORS: *Medical personnel, Training, *Respiratory diseases, Medical research, Tuberculosis, Fungus infections.

Contents:
Fifteen years of the Medical Academy in Gdansk, by R. Baranski (excerpts)
The Institute of Tuberculosis in Warsaw, by H. Slomczynska.

HEALTH AND SANITATION IN HUNGARY. 16 Jan 61 [7]p. JPRS: 4335.
Order from OTS or SLA $1.10 62-19329

Trans. of Nepegeszsegugy (Hungary) 1960, v. 41, no. 10, p. 338.

DESCRIPTORS: *Public health, *Sanitary engineering, *Infections, *Diseases, *Scientific personnel, Training, Hungary.

Contents:
Report of the Ministry of Health on the incidence of contageous diseases in Hungary, Sep 60
Training course for medical sanitary officers.

PROCEEDINGS OF THE MEETING OF THE SOCIETY OF ONCOLOGISTS OF MOSCOW AND MOSCOW PROVINCE (NO. 52) 31 MAR 60, tr. by L. Summerfield. [1961] 11p.
Order from OTS or SLA $1.60 62-13980

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 107-110.

DESCRIPTORS: *Medical personnel, Medical research, *Tumors.

PUBLIC HEALTH SERVICE PROGRAM IN POLAND. 18 Sep 61 [26]p. JPRS: 10180.
Order from OTS or SLA $2.60 62-19624

Trans. of Sluzba Zdrowia (Poland) 1961, v. 13, no. 27, p. 1-4 and 6.

DESCRIPTORS: *Public health, Conferences, Research program administration, *Medical research, Personnel, Training, Infections, Hospitals, Construction, Tuberculosis, Medical laboratories, Medical personnel.

Contents:
On the basis of Marxist analysis (long term planning at the sixth conference of health ministers of bloc nations in Budapest) by H. Slomczynska
Polish-Yugoslav cooperation agreement
A good start and a good example (cooperation between public health service workers' union and administration
Professional laboratory technician training
Child Surgeon Conference, by Jan Kossakowski
Infectious disease hospitals today and tomorrow, by J. Hornik
Changes in the curriculum in nursing assistant schools
In tuberculosis laboratories, by M. Manowska.

REGULATIONS FOR THE PREVENTION OF POLIO (ISSUED 13 JAN 61). 7 Apr 61 [6]p. JPRS: 8060.
Order from OTS or SLA $1.10 62-19441

Trans. of Gezetzblatt der Deutschen Demokratischen Republik (East Germany) 1961, pt. II, no. 4, p. 11-12.

DESCRIPTORS: *Poliomyelitis, Preventive medicine, Public health, Control, East Germany.

SURVEY OF VARIOUS DISEASES IN YUGOSLAVIA. 7 Apr 61 [67]p. 64 refs. JPRS: 6977.
Order from OTS or SLA $6.60 62-19434

Trans. of Higijena (Yugoslavia) 1960, v. 12, no. 2/3, p. 113-136, 145-152, 165-177, 217-224 and excerpts from p. 184-189.

DESCRIPTORS: *Diseases, *Epidemiology, Intestines, *Amoebic dysentery, *Brucellosis, Animals, Geography, *Q fever, *Rickettsia.

Contents:
Epidemiology of diarrheal diseases in Yugoslavia, by A. Zdravkovic
Our experience with patients of intestinal amebiasis, by M. Jevtic
Brucellosis of domestic animals in Yugoslavia, by I. Zarnic
Supplement to the Medical Geography of Q-Fever in Yugoslavia, by Lj. Vuksic
Epizootology of Q-fever in Yugoslavia, by O. Bohm
Rickettsiasis in Dalmatia, by V. Urlic.

Ado, A. D.
DEVELOPMENT OF A THEORY OF MEDICINE IN WORKS OF SOVIET PATHOLOGISTS (Razvitie Teorii Meditsiny v Trudakh Sovetskikh Patologov). [1961] 25p. 41 refs. RSTP S-16.
Order from OTS or SLA $2.60 62-15085

Trans. of Sovetskaya Meditsina (USSR) 1957, v. 21, no. 10, p. 10-24.

DESCRIPTORS: *Pathology, Medical personnel, Medical research, Medicine, Theory.

Anikin, M. N. and Rumyantsova-Russkikh, M. V.
HIGH-FREQUENCY CURRENTS IN THE TREATMENT OF POLIOMYELITIS IN ADULTS. 25 Oct 61 [14]p. 10 refs. JPRS: 10736.
Order from OTS or SLA $1.60 62-13322

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1961, v. 61, no. 8, p. 1122-1128.

DESCRIPTORS: *Poliomyelitis, Paralysis, *High frequency, *Electric currents, Therapy, Stimulation, Muscles.

The peripheral reactions in 20 poliomyelitis patients were investigated under the effect of a thermal procedure, such as medium-wave diathermy, upon the spinal focus of infection. The duration of the disease was from two months to a year. The clinical picture showed deep, flaccid paresis and paralysis of the muscles of the extremities and trunk. The functional state of the vascular system was examined simultaneously on the affected and healthy extremities prior, during and after diathermy treatments. Some 600 investigations were made. It was found that a high frequency current, acting on the area of the spinal cord at the level of localization of the pathological focus increases the excitability of the muscles of the affected extremites. High frequency current, immediately after cuttin-in, reaches the substance of the spinal cord and the vegetative paravertebral formations and exerts a definite effect on the functional state of the affected muscles. The character of functional changes depends on the depth of muscular involvement and, possibly, its duration.

Babenko, I. G.
THE USE OF UHF IN THE COMPLEX THERAPY OF OSTEOARTHRITIC TUBERCULOSIS. 23 Oct 61 [10]p. 7 refs. JPRS: 10652.
Order from OTS or SLA $1.10 62-13041

Trans. of Ortopediya, Travmatologiya i Protezirovanie (USSR) 1961 [v. 22] no. 6, p. 42-46.

DESCRIPTORS: *Ultrahigh frequency, Therapy, *Tuberculosis, *Arthritis.

The oligothermal effect of UHF in the complex therapy of osteoarthritic tuberculosis contributed to the reduction of the time required for the abatement of the tuberculous process. The oligothermal effect of UHF contributed to the more effective delimitation of the osseous tuberculous foci. The reduction of abatement periods in this disease is the result of UHF stimulation of the delimitation processes of the tuberculous foci. Our clinical observations and experimental studies attests to the expediency, in the interests of surgical treatment, of including UHF in the complex of therapeutic measures in osteoarthritic tuberculosis. (Author)

Bakacs, Tibor.
OCCURRENCE OF TYPHOID IN HUNGARY AND ITS COMMUNAL-HYGIENIC CORRELATIONS. 11 Dec 61 [10]p. JPRS: 11461.
Order from OTS or SLA $1.10 62-19674

Partial trans. (some sections summarized) of Orvoskepzes (Hungary) 1961, v. 36, no. 4, p. 297-315.

DESCRIPTORS: *Typhoid, Vital statistics, *Preventive medicine, Public health, Epidemiology, Hungary.

Baranov, V. G.
SOME PHYSIOLOGICAL AND PATHOLOGICAL CHARACTERISTICS OF THE PRESENILE PERIOD. [1961] 21p. 42 refs. [NIH] no. 147.
Order from OTS or SLA $2.60 62-15108

Trans. of Klinicheskaya Meditsina (USSR) 1957, v. 35, no. 9, p. 54-61.

DESCRIPTORS: Tissues (Biology), Brain, Metabolism, *Age factors, Age, Physiology, Pathology, *Diseases, Preventive medicine.

Biryukov, D. A.
FORTY YEARS OF EXPERIMENTAL MEDICINE IN THE USSR AND THE ROLE OF PAVLOV'S TEACHING IN ITS DEVELOPMENT (40 Let Eksperimental'noi Meditsiny v SSSR i Rol' Ucheniya I. P. Pavlova v Ee Razvitii). 13p. 3 refs. RSTP S-20.
Order from OTS or SLA $1.60 62-15084

Trans. of Klinicheskaya Meditsina (USSR) 1957 [v. 35] no. 10, p. 92-99.

DESCRIPTORS: *Pathology, Physiology, Etiology, Diseases, Medical research, *Medicine

Soviet pathological physiology has transferred its main focus of attention from the study of the etiology to the study of the pathogenesis, that is, to a study of the mechanism of disease processes. Four decades ago, medicine did not have at its disposal even the elements for constructing a theory of medicine; these made their appearance in the thirties. Now, after 40 years of development of Soviet medicine, we can speak of a foundation for the construction of a progressive medical theory. It consists of the ideational legacy of Pavlovian teaching and of the remarkable ideas and facts left to us by N. Ye. Vvedenskiy and A. A. Ukhtomskiy. (Extracted)

Blinova, M. I.
DETECTION OF SPECIFIC ANTIBODIES IN THE SERA OF CONVALESCENTS AND HEALTHY INDIVIDUALS IN THE TOMSK FOCUS OF TICK-BORNE ENCEPHALITIS. [1961] 8p. 6 refs.
Order from OTS or SLA $1.10 62-13940

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 525-528.

DESCRIPTORS: *Encephalitis, *Ticks, *Antibodies, Detection, Serum, Population, Immunization.

More than 300 serological examinations have been made in the complement-fixation and neutralization tests on the population of the Tomsk focus of tick-borne encephalitis. Virus-neutralizing and complement-fixing antibodies were detected in 26 to 31% of normal subjects examined which points to natural immunization of the population of the encephalitis endemic district. A full course of immunization with mouse brain formalized vaccine against tick-borne encephalitis ensured persistence of high titres of virus-neutralizing (88% of those vaccinated) antibodies in the sera for 2 years. Complement-fixing antibodies were detected irregularly and only in 20 to 28% and, therefore, cannot serve as an indication of immunity in the vaccinated. In the patients the complement-fixing antibodies were detected more regularly as from the 10th to 15th day of the disease and to high titres. Virus-neutralizing antibodies were detected in patients as from the 15th day of the disease. (Author)

Bogdanik, Tadeusz and Perkal, Julian.
CYBERNETIC OUTLINE OF GRANULOCYTIC REACTIONS. 22 May 61 [21]p. 8 refs. JPRS: 8321.
Order from OTS or SLA $2.60 62-19299

Trans. of Polski Tygodnik Lekarskii, 1961, v. 16, no. 3, p. 87-94.

DESCRIPTORS: *Cybernetics, *Leucocytes, Pathology, *Cancer, *Peptic ulcers, Reaction (Psychology), Diagnosis, Mathematical prediction.

After the administration of sulfathiazole to cancer patients, different granulocytic reactions are determined, with the preponderance of a tendency to increase in the granulocyte count. The course of the granulocytic reactions can be compared on the basis of cybernetic argumentation, to a sinusoid of declining deflections, described by a pendulum moving in water. The calculation of the sinusoid amplitude and phase permits a sharp differentiation of the gastric cancer patients from the patients with gastric ulcer. With the calculation of the sinusoid amplitude and phase, among the gastric cancer patients two groups

of patients can be separated, compact under the viewpoint of the mentioned symptoms; in one of them more patients are with anemia, hemorrhage and metastases. Taxonomic analysis of both mathematically separated groups of patients indicates that under the viewpoint of the examined clinical characteristics they are not compact groups. The sulfathiazole test and its cybernetic evaluation guarantee new, significant information about biological reactions in cancer patients. (Author)

Bratushchik, G. Ya.
FEATURES OF VASOREFLEX REACTIONS IN CASES OF LATE PREGNANCY TOXEMIAS (Osoblivosti Sudinoreflektornikh Reaktsii pri Piznikh Toksikozakh Vagitnosti). 1960, 8p. RSTP Ab-3315-60
Order from OTS or SLA $1.10 62-15068

Trans. of Pediatriya, Akusherstvo i Ginekologiya (USSR) 1957, no. 4, p. 43-45.

DESCRIPTORS: *Women, *Pregnancy, Blood pressure, Hypertension, Toxicity, Pathology.

By means of the type of vascular reaction it is possible to determine, in the early stages, the development and severity of late toxicoses of pregnancy. The severity of the clinical manifestations of late toxicoses of pregnancy, depends on the degree of hypertension, and especially on the intracranial pressure. The measurement of the pressure in the temporal arteries, with calculation of the ratio of this pressure to the general blood pressure, is one of the best methods of early diagnosis of latent forms of toxicoses of pregnancy which sometimes exhibit only the presence of intracranial hypertension. By means of assessing the status of the blood pressure and the capillary blood flow in patients, it is possible to demonstrate the presence of late toxicoses long before the development of clinical symptoms, and also to appraise the severity of the toxicoses. The demonstration of reduced vascular reactions and the presence of vascular areflexia in women with late toxicoses of pregnancy reflect the predominance of subcortical regulation and the reduction in the regulatory role of the cortex with respect to the vasomotor centers, which is the cause of the entire complex of manifestations of the general and local vascular disturbances. (Author)

Brill, Juliush.
EQUINE ABORTION VIRUS INFECTION OF HUMAN AMNION GRAFTED ON THE CHORIOALLANTOIS OF CHICK EMBRYOS (Hodowla Wirusa Ronienia Zakaznego Klaczy (Dimock) w Przeszczepach Amnionu Czlowieka na Chorioallantois Zarodka Kury). 24 July 61 [11]p. JPRS: 9685.
Order from OTS or SLA $1.10 62-19207

Trans. of Medycyna Doswiadczalna i Mikrobiologia (Poland) 1961, v. 13, no. 1, p. 35-41.

DESCRIPTORS: *Virus diseases, *Horses, *Tissue culture, Growth, Fetal membranes, Reproduction, Embryos.

Inclusion bodies resembling structurally those observed in cells of fetuses of mares infected with equine abortion infection virus were obtained in sections of human amnion grafted on the chorioallantois of chick embryos 9 to 10 days old after inoculation with equine abortion infection virus (EAIV). The domestic EAIV, strain RAC, preserved in 50 percent glycerol under refrigeration at a temperature of 4°C for a period of five months, retains the ability to evoke inclusion bodies in the nuclei of the cells of the human amnion. Using our domestic strain of eaiv for inoculations, the observations of Goodpasture and Anderson were confirmed as regards the ability of producing intranuclear inclusion bodies in the cells of human amnion by means of the equine abortion infection virus. (Author)

Dyban, A. P.
CERTAIN ASPECTS OF PATHOLOGICAL HUMAN EMBRYOLOGY (Nekotorye Voprosy Patologicheskoi Embriologii Cheloveka). [1961] [27]p. (14 figs. omitted) 143 refs. [NIH] - 11.
Order from OTS or SLA $2.60 62-15153

Trans. of Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1955, v. 32, no. 4, p. 6-18.

DESCRIPTORS: *Embryos, *Embryology, Pathology, Man, Physiology.

A literature survey.

Gaidamaka, M. G., Volchanetskaya, G. I., and Fyadina, D. D.
ADSORPTION OF ERYTHROCYTES BY THE CELLS OF HUMAN TISSUE CULTURE INFECTED WITH INFLUENZA VIRUS. [1961] [6]p. (4 figs. omitted).
Order from OTS or SLA $1.10 62-13932

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 564-567.

DESCRIPTORS: Cells (Biology), *Erythrocytes, *Adsorption, *Influenza viruses, Infections, Culture media, Tissues (Biology)

This communication is devoted to a study of haemadsorption caused by influenza virus in cultures of human skin - muscle embryonic tissue, transplantable cancer cells of the larynx-Hep-2 and the kidneys of swine and cow embryos. Adsorption of red cells occurs most intensively in a tissue culture of cancer of the human larynx (Hep-2) and quite well in a culture of skin-muscle tissue of human embryo infected with influenza virus. In monkey kidney tissue culture adsorption of red cells in our experiments was weak. Detection of influenza virus in material from patients by means of adsorption of red cells in infected tissue culture is fully possible provided the phenomenon is neutralized by specific antiserum. There is the possibility of phagocytosis of red cells by the cells of tissue culture which may lead to false conclusions on the presence of virus if there is failure to observe the optimal time of reading of the reaction. Unspecific degenerative phenomena in the tissue may also be the cause of adsorption of red cells.

Gergely, Janos, Gero, Sandor and others.
BETA-LIPOPROTEIN ANTIGEN STUDIES: ANTIGEN RELATEDNESS BETWEEN BETA-LIPOPROTEINS OF ATHEROSCLEROTIC HUMANS AND EXPERIMENTAL ANIMALS. 22 Jan 62 [12]p. JPRS: 12059.
Order from OTS or SLA $1.60 62-19661

Trans. of Orvosi Hetilap (Hungary) 1961, v. 102, no. 31, p. 1450-1452.

DESCRIPTORS: *Lipoproteins, *Antibodies, *Antigens, Reaction (Psychology), *Arteriosclerosis.

Rabbits were immunized with various protein mixtures containing beta-lipoproteins (BLP). One week after immunization the presence in the animal sera of anti-BLP antibodies was observable. In the majority of cases the appearance of the anti-BLP antibodies preceded that of antibodies active against other protein fractions. After studying the problem of antigen relatedness between serum BLP's of various species by means of simple, two-dimensional ager gel diffusion, it was concluded that the BLP derived from the sera of atherosclerotic humans is related to the BLP derived from the sera of cholesterol-fed, atherosclerotic rabbits and roosters. Such relatedness was not demonstrable with BLP's obtained from non-atherosclerotic sources. (Author)

Ginzburg, S. E., Zlotnick, E. I., and Lerman, V. I.
ELECTROENCEPHALOGRAPHIC AND ELECTROCARDIOGRAPHIC EXAMINATIONS DURING ARTIFICIAL ARTERIAL HYPOTENSION INDUCED BY THE INJECTION OF GANGLION-BLOCKING AGENTS (Elektroentsefalograficheskie i Elektrokardiograficheskie Issledovaniya pri Iskusstvennoi Arterial'noi Gipotonii, Vyzvannoi Vvedeniem Ganglioblokiruyushchikh Veshchestv). 26 Oct 61 [9]p. 2 refs.
JPRS: 10751.
Order from OTS or SLA $1.10 62-13215

Trans. of Eksperimental'naya Khirurgiya i Anesteziologiya (USSR) 1961, v. 6, no. 3, p. 26-30.

DESCRIPTORS: *Electroencephalography, *Electrocardiography, *Hypotension, Brain, Heart, *Rhythm, Physiology.

With mild and moderate degrees of artificial arterial hypotension caused by the administration of ganglion-blocking agents, periodic "spontaneous" disappearance of the alpha-rhythm lasting from one to 10 seconds was observed in 5 out of 10 patients with mild and moderate degrees of hypotension. In the other 5 of the patients no changes were noted in the electrical activity of the brain. With marked hypotension the alpha-rhythm disappears completely, and deep slow waves (one-two per second) of large amplitude (over 100 microvolts) appear. These changes coincided with clinical signs of cerebral hypoxia. The changes were readily reversible with increase in the blood pressure. The original rhythm was regained more rapidly in the healthy hemisphere in the case of supratentorial tumors. On the electrocardiograms, tachycardia is noted with an increase in the size of the P wave, a change in the T wave (reduction or, less often, increase in size).

Golikova, T. M., Bobinskaya, G. A., and Babanov, G. P.
BLOOD SERUM CHOLINESTERASE ACTIVITY IN CHILDREN SUFFERING FROM RHEUMATISM (Aktivnost' Kholinesterasy Syvorotki Krovi pri Revmatizme u Detei). 21 Nov 61 [8]p. JPRS: 11172.
Order from OTS or SLA $1.10 62-13512

Trans. of Pediatriya (USSR) 1961 [v. 39] no. 8, p. p. 52-55.

DESCRIPTORS: *Cholinesterase, Blood, Diagnosis, Children, *Rheumatism.

Observations of 81 children showed that cholinesterase activity of the blood serum in healthy children varies from 4.22 to 8.6 mcm of acetic acid, comprising 6.35 mcm on the average. The cholinesterase activity indexes in rheumatic children varied from 1.3 to 11.1 mcm, or 5.24 mcm on the average, which is below the mean index for healthy children. The lowest cholinesterase indexes were elicited during the height of the disease. The indexes depended somewhat on the type of rheumatism and on the age of patients. No connection with the number of attacks could be ascertained in our patients. In the overwhelming majority of cases, a comparison of the clinical picture and the results of blood serum examination of cholinesterase activity revealed a definite parallelism between these two indexes.

Golubev, D. B.
NATURE OF HAEMAGGLUTINATING ACTIVITY OF SERA OF PERSONS WITH INFECTIVE HEPATITIS. [1961] 7p. (2 figs. omitted) 20 refs.
Order from OTS or SLA $1.10 62-13946

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 582-586.

DESCRIPTORS: *Hepatitis, Infections, Serum, *Hemagglutinins.

The pattern of the heterohemagglutinin titre to rooster red cells in the sera of patients with infective hepatitis is diametrically opposed to that of the heterophilic and "cold" antibodies and the test can be used for the early diagnosis of this disease. The heterohemagglutinins to the rooster red cells are more heatlabile, more sensitive to formalin and ultra-violet rays than are the heterophilic antibodies and unlike the latter do not react with a guinea pit kidney suspension and are precipitated on passage of CO_2. Agglutination of rooster red cells by the sera of patients with infective hepatitis is a phenomenon differing from the Paul-Bunnel test.

Gorbasheva, T. P.
MICRO-MACROSCOPIC DATA ON THE PELVIC FASCIA AND ITS RELATION TO THE FEMALE PELVIC ORGANS (Makro-Mikroskopicheskie Dannye o Tazovoi Fastsii i Otnoshenii Ee k Organam Zhenskogo Taza). 1960, 9p. RSTP Ab-260-A60.
Order from OTS or SLA $1.10 62-15078

Trans. of Vsesoyuznoe Obshchestvo Anatomov, Gistologov i Embriologov. Sverdlovskoe Otdelenie. Sbornik Nauchnykh Rabot (USSR) 1957 [v. 1] no. 1, p. 47-50.

DESCRIPTORS: *Women, *Reproductive system, Ovary, Uterus, Diseases, Microanalysis, Microstructure

All the organs of the minor pelvis, being organs which move in bulk and which contain the possibilities of movement, having smooth-muscle fibers, are surrounded by their own fascial sheath, the shape of the inner surface of which is quite an accurate negative of the corresponding organ. The entire visceral fascia is an integral structure, which by lying adjacent to the internal organs (Fallopian tube, uterus and ovary) forms a connective-tissue receptacle for them and is of importance in the spread of suppurative-inflammatory processes. (Author)

Gorodilova, V. V.
SPECIFIC ANTIGENS OF CANCER OF THE BREAST CONCLUSIONS. 12 Mar 62 [13]p. JPRS: 12973.
Order from OTS or SLA $1.60 62-23464

Trans. of mono. Spetsificheskii Antigen Raka Molochnykh Zhelez, Moscow, 1961, p. 153-167.

DESCRIPTORS: *Cancer, *Mammary glands, Etiology, *Viruses, *Antigens, Antibodies, Precipitation.

Research showed that in addition to tumorous tissue, cancer protein is contained in the blood of women patients as well as in the blood of mice with cancer of the breast. The specific components discovered were adsorbed by erythrocytes. Data indicate that tissue autoantigens occurring in the process of cancerogenesis are not adsorbed by erythrocytes. In studying extracts from cancerous tissue from the human mammary gland in the electron microscope, globular virus-like formations were discovered. These facts substantiate the hypothesis that cancer of the human mammary gland as well as cancer of the mammary gland in mice constitutes a tumor caused by a virus-like agent. (Extracted)

Govor, N. I. and Lipen', A. A.
DISEASES OF THE CARDIOVASCULAR SYSTEM IN THE BELORUSSIAN SSR (Bolezni Serdechno-Sosudistoi Systemy v Belorussoi SSR). 3 Nov 61 [9]p. JPRS: 10881.
Order from OTS or SLA $1.10 62-13378

Trans. of Zdravookhranenie Belorussii (USSR) 1961 [v. 7] no. 8, p. 17-21.

DESCRIPTORS: *Diseases, *Circulatory system, *Angina pectoris, Rheumatism, Vital statistics, Heart.

Diseases of the cardiovascular system, with the exception of rheumatism, affect more frequently individuals 50 years of age, and older. The morbidity rate rises after age 40. Cardiovascular diseases, with the exception of angina pectoris and myocardial infarct, affect females more frequently than males (by 50-60%) and rheumatism (by 80%). Angina pectoris affect males more than females by 44%), and myocardial infarct 3-fold more frequently than females. Among the working groups of the population a high incidence of cardiovascular morbidity was found in white collar workers. Myocardial infarct was recorded in them 7-fold, angina pectoris 5-fold, atherosclerotic cardiosclerosis 4-fold, cerebral vascular affections and hypertensive disease 3-fold, and rheumatism by 34% more frequently than in industrial workers. Rheumatism morbidity is highest among school children. On the basis of the statistical data, it has been established that a higher rheumatic morbidity is found in the same localities where tonsillitis morbidity is prevalent. (Author)

Hou, Shih-jung, Feng, Lan-chou and others.
CLINICAL SIGNIFICANCE OF SERUM TRANSAMINASE AND ALDOLASE ACTIVITY [AND] A DECADE OF CHINESE RESEARCH ACHIEVEMENTS IN PARASITIC DISEASES. 31 Oct 61 [56]p. 88 refs. JPRS: 10974.
Order from OTS or SLA $5.60 62-13548

Trans. of Chung Hua I Hsueh Tsa Chih (Chinese People's Republic) 1960, v. 46, no. 1, p. 15-25 and 32-40.

DESCRIPTORS: Glutaminases, *Aldolase, Diagnosis, Diseases, *Liver, Heart, Kidneys, Serum, *Transaminases, China, *Parasitic infections

Kalaidzhiev, V.
BASIC OUTLINES OF THE WORK OF THE SCIENTIFIC RESEARCH INSTITUTE OF EPIDEMIOLOGY AND MICROBIOLOGY IN BULGARIA. 13 Mar 62 [15]p. JPRS: 12945.
Order from OTS or SLA $1.60 62-23447

Trans. of Khigiena [Epidemiologiya i Mikrobiologiya] (Bulgaria) 1961, v. 4, no. 3, p. 57-62.

DESCRIPTORS: *Scientific research, *Bulgaria, Medicine, *Immunology, Diseases, Epidemiology, *Microbiology, *Parasitology, Medical research.

Kaplanskii, B. S.
COMPARATIVE STUDY OF ELECTROPHORETIC CHANGES IN BLOOD SERUM PROTEINS AND MORPHOLOGICAL CHANGES IN HEPATIC TISSUES IN INFLAMMATORY PROCESSES OF THE GALL BLADDER AND BILE DUCTS. 24 Oct 61 [17]p. 6 refs. JPRS: 10675.
Order from OTS or SLA $1.60 62-13035

Trans. of Khirurgiya (USSR) 1961 [v. 37] no. 7, p. 39-46.

Portions of this report will not reproduce well.

DESCRIPTORS: *Gallbladder, *Inflammation, Pathology, *Blood proteins, *Liver, Tissues (Biology), *Electrophoresis.

In patients suffering from phlegmonous and gangrenous cholecystitis the content of albumins in the blood serum is markedly decreased while the content of alpha$_2$-globulins and gamma-globulins is higher. The increase of alpha$_2$-globulins is particularly marked in patients with a diffuse inflammatory process in the liver tissue. In patients suffering from catarrhal and

chronic cholecystitis, as a rule, only a moderate decrease of albumins and increase of gamma-globulins was observed. No substantial changes in the content of alpha$_2$-globulins were noted. Comparison of the data of the hepatic histological examination in acute cholecystitis patients with the electrophoretic indexes of serum proteins shows that there is a definite correlation between the changes in albumins, gamma-globulins, and especially alpha$_2$-globulins and the extent of affection of the hepatic parenchyma. The presence at the early stages of the disease of changes in the protein fractions, attesting to the involvement of the hepatic tissue, and their lingering for a long time after surgical intervention confirm the necessity of early surgical intervention in acute cholecystitis. (Author)

Kas'yanenko, V. G.
CERTAIN THEORETICAL PROBLEMS OF MODERN ARTHROLOGY (Nekotorye Teoreticheskie Voprosy Sovremennoi Artrologii) tr. by B. Haigh. [1961] 35p. 120 refs. [NIH]-15.
Order from OTS or SLA $3.60 62-15150

Trans. of Arkhiv Anatomii [Gistologii i Embriologii] (USSR) 1956, v. 33, no. 3, p. 3-14.

DESCRIPTORS: *Arthritis, Diseases, *Joints (Physiology).

Krivoshchekii, A. F.
PLATELET COUNT IN CANCER DIAGNOSIS.
9 Nov 61 [11]p. 4 refs. JPRS: 10989.
Order from OTS or SLA $1.60 62-13344

Trans. of Vestnik Khirurgii (USSR) 1961 [v. 87] no. 7, p. 30-34.

DESCRIPTORS: *Blood platelets, Blood counts, Age, *Cancer, Diagnosis.

Quantitative changes of the blood thrombocytes and their individual forms reflect the reaction of the organism to the malignant tumor growth. As a rule, the quantity of old forms in malignant tumors is higher, while that of mature forms is lower. The graver the course of the disease, the larger the number of old, and smaller the number of mature thrombocytes; conversely, upon regressive development of the process, the number of mature forms increases, while that of old forms decreases. The thrombocytary formula is recommended as one of the tests in the diagnosis of a malignant tumor growth. (Author)

Kulik, A. M. and Sanotskaya, N. V.
THE SIGNIFICANCE OF CHANGES IN PULMONARY VENTILATION AND CIRCULATION IN THE OCCURRENCE OF HYPOXIC PHENOMENA (Znachenie Izmeneniya Ventilyatsii i Krovoobrashcheniya Legkikh v Vozniknovenii Gipoksicheskikh Yavlenii). 3 Nov 61 [9]p. 6 refs. JPRS: 10838.
Order from OTS or SLA $1.10 62-13411

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1961, v. 5, no. 4, p. 30-33.

DESCRIPTORS: *Respiration, *Lungs, *Blood circulation, *Ventilation, *Anoxia, Physiology.

In investigations on healthy people and patients with cardiopulmonary insufficiency as well as on animals it has been shown that the occurrence of arterial hypoxia is produced chiefly by inadequate aeration of different parts of the lungs. Under certain conditions the development of arterial hypoxia depends also on the changes in aeration and on changes in the pulmonary blood. (Author)

Kuznetsov, V. A. and Sigalov, A. B.
STILLBIRTH AND WAYS TO REDUCE IT (Mertvorozhdaemost' i Puti ee Snizheniya). [1961] 10p. 3 refs. RSTP Ab-454.
Order from OTS or SLA $1.10 62-15076

Trans. of Sovetskaya Meditsina (USSR) 1957, v. 21, no. 2, p. 35-41.

DESCRIPTORS: Women, Gynecology, *Pregnancy, *Pathology, Vital statistics, *Childbirth

Leshchenko, P. D., Kompantsev, N. F., and Birkovskii, Yu. E.
RESULTS AND TASKS OF THE CONTROL OF INFECTIOUS DISEASES IN THE UKRAINE.
12 Mar 62 [10]p. JPRS: 12917.
Order from OTS or SLA $1.10 62-23414

Trans. of Vrachebnoe Delo (USSR) 1961, no. 11, p. 3-7.

DESCRIPTORS: *Infections, *Diseases, Epidemiology, Control, Public health.

Makarchenko, A. F.
THE SCIENTIFIC VIEWS OF ACADEMICIAN A. A. BOGOMOLETS AND THE TREND OF HIS WORKS.
24 Oct 61 [18]p. 10 refs. JPRS: 10701.
Order from OTS or SLA $1.60 62-13260

Trans. of Vrachebnoe Delo (USSR) 1961, no. 5, p. 9-15.

Portions of this report will not reproduce well.

DESCRIPTORS: Physiology, Pathology, *Immunology, Histology.

Encomium.

Mazhdrakov, G. and Grancharov, V.
BLOOD GROUPS AND GASTRIC CANCER, tr. by L. Summerfield. [1961] [12]p. (3 figs. 1 table omitted) 34 refs.
Order from OTS or SLA $1.60 62-13963

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 17-22.

DESCRIPTORS: *Stomach, *Cancer, *Blood transfusions, Blood chemistry.

Some 200 patients with gastric cancer and dying from same were investigated. The carcinoma was most frequently seen in the pyloric region of the stomach, which coincides with the currently known data. Among the patients with this location of a malignant growth there is naturally a predominance of cases with blood group A. The histological type of carcinoma was unrelated to the membership of any particular blood group. The percentual frequency of blood groups for the various types coincides fully with the distribution of patients according to blood groups. The results do not confirm the reports found in the literature on the preponderance of group A among gastric cancer patients.

Mel'nikov, S. A.
ATYPICAL FORMS OF TICK-BORNE ENCEPHALITIS (Atipichnye Formy Kleshchevogo Entsefalita). [1961] 10p. 2 refs.
Order from OTS or SLA $1.10 62-15347

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1956, v. 56, no. 5, p. 385-388.

DESCRIPTORS: *Encephalitis, *Ticks.

Case histories.

Minaeva, V. M., Barova, N. I. and others.
VIROLOGICAL CHARACTERIZATION OF POLIOMYELITIS IN THE WESTERN URALS. [1961] 3p.
Order from OTS or SLA $1.10 62-13959

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 624.

DESCRIPTORS: *Poliomyelitis, Viruses, Poliomyelitis virus, Diagnosis, Microbiology.

Olsuf'ev, N. G., Borodin, V. P., and Tsevtkova, E. M.
EPICUTANEOUS SKIN TEST WITH TULARIN FROM VACCINE STRAIN TO DETERMINE IMMUNITY IN THOSE INOCULATED AGAINST TULAREMIA AND FOR DIAGNOSIS OF THIS INFECTION (Nakozhnyi Tulyarin iz Vaktsinnogo Shtamma dlya Opredeleniya Immuniteta u Privitykh Protiv Tulyaremii i Diagnostiki Etoi Infektsii). 1960 [8]p. RSTP T-18-60.
Order from OTS or SLA $1.10 62-15100

Trans. of mono. Voprosy Epidemiologii i Profilaktiki Tulyaremii (Problems of Epidemiology and Prophylaxis of Tularemia) Moscow, 1958, p. 156-158.

DESCRIPTORS: Tularemia, *Tularemia vaccine, Public health, Diagnosis, Skin, Infections, Immunization, Diseases, Therapy.

In mass population testing, epicutaneous tularin justified itself as a completely specific test, technically much easier to perform than the intracutaneous test. Epicutaneous tularin from the vaccine strain is entirely suitable for detecting the allergic state in those inoculated against tularemia, at various intervals after the vaccination and revaccination, as well as in persons who have had tularemia in the past. Epicutaneous tularin produces a weaker reaction than the intracutaneous tularin, and fewer side effects, in persons who have been inoculated against, or who have had tularemia.

Pavlovskii, E. N.
THE NATURAL FOCI OF TICK-BORNE ENCEPHALITIS [Die Naturherde der Zeckenencephalitis]. [1961] [14]p. (4 figs. omitted) 20 refs. NAMRU Trans. 29(T29).
Order from OTS or SLA $1.60 62-13927

Trans. of Acta Medica USSR, 1940, v. 3, no. 3, p. 187-199.
Another trans. is available from OTS or SLA $2.60 as 62-13930, 25 May 53, 25p.

DESCRIPTORS: *Encephalitis, *Ticks

Pavlovskii, E. N.
NATURAL FOCI OF TICK ENCEPHALITIS (Die Naturherde der Zeckenencephalitis) tr. by H. Norris. 25 May 53, 25p.
Order from OTS or SLA $2.60 62-13930

Trans. of Acta Medica URSS, 1940, v. 3, no. 3, p. 187-199.

DESCRIPTORS: *Encephalitis, *Ticks.

Raushenbakh, M. O. and Tsessarskaya, T. P.
SIGNIFICANCE OF INDOLE-LIKE SUBSTANCES IN THE PATHOGENESIS OF LEUKOSIS. [1961] 9p. 8 refs. [NIH] no. Ab-1208.
Order from OTS or SLA $1.10 62-15105

Trans. of Problemy Gematologii i Perlivaniya Krovi (USSR) 1956, v. 1, no. 2, p. 10-14.

DESCRIPTORS: *Blood, *Indoles, Tumors, Diseases.

In the blood of patients with leukosis, there is encountered with great constancy a compound which is one of a number of indole derivatives. In the blood of healthy persons this compound is found significantly less frequently, and, judging by the intensity of the color reaction, in smaller quantities. (Author)

Ravkina, L. I.
THE COMPLEMENT FIXATION REACTION OF EXTRACTS FROM BLOOD CLOTS OF PATIENTS UNDER EXAMINATION WITH BLOOD SERA OF CANCER CASES, tr. by L. Summerfield. [1961] [14]p. (3 tables omitted) 40 refs.
Order from OTS or SLA $1.60 62-13971

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 70-74.

DESCRIPTORS: *Cancer, Serum, Diseases, Diagnosis, Neoplasms, Antigens, Antibodies, Erythrocytes, Deflection, Blood coagulation.

Rozenshtraukh, L. S. and Semenovskii, M. L.
COMPARISON OF ANGIOGRAPHIC AND BRONCHOGRAPHIC DATA IN THE PERIPHERAL FORM OF LUNG CANCER, tr. by L. Summerfield. [1961] [15]p. (3 figs. omitted) 21 refs.
Order from OTS or SLA $1.60 62-13966

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 33-38

DESCRIPTORS: *Lungs, *Cancer, Radiography.

Rusanov, V. S.
A CASE OF PRIMARY LYMPHOGRANULOMATOSIS OF BONES, tr. by L. Summerfield. [1961] [8]p. (3 figs. omitted) 8 refs.
Order from OTS or SLA $1.10 62-13975

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 89-92.

DESCRIPTORS: *Hodgkin s disease, *Bone, Skeleton, Tissues (Biology).

Samundzhan, E. M.
THE FUNCTIONAL STATE OF THE ADRENAL CORTEX IN PATIENTS WITH MALIGNANT NEOPLASMS, tr. by L. Summerfield. [1961] [21]p. (4 figs. 4 tables omitted) 22 refs.
Order from OTS or SLA $2.60 62-13968

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 53-60.

DESCRIPTORS: *Neoplasms, Adrenal glands, Secretion, Adrenal cortical extract, Steroids.

In the early stages of the development of a malignant process there was a lowering of adrenocortical functional activity. With progression of the neoplastic process however (extensive metastasisation) the adrenocortical functional activity increased considerably. With the development of severe cachexia a depression of adrenocortical functional activity was noted.

Savchenko, E. N.
TICK-BORNE ENCEPHALITIS IN SAKHALIN (PRELIMINARY COMMUNICATION). [1961] 2p.
Order from OTS or SLA $1.10 62-13957

Trans. of #Vopr[osy] Virusol[ogii] (USSR) 1960, v. 5, no. 5, p. 625.

DESCRIPTORS: *Encephalitis, *Ticks.

In 1959 a case of disease was found with a clinical picture typical of the meningeal form of this illness. The clinical diagnosis was confirmed by the results of the complement-fixation test with the use of convalescent serum and antigen of the tick-borne encephalitis virus (1 : 32, +++), by the findings on the time of onset of the disease (first ten days of June), and by the fact that 10 days before the disease a tightly engorged tick was found in the concha auriculae of the patient. (Author)

Shestakov, S. V.
THE PREVENTION OF MYOCARDIAL INFARCTS. [1961] 15p. 49 refs. [NIH] no. 40.
Order from OTS or SLA $1.60 62-15141

Trans. of Klin[icheskaya] Med[itsina] (USSR) 1956, v. 34, no. 1, p. 35-42.

DESCRIPTORS: *Heart, *Cardiac muscle, *Arteriosclerosis, Preventive medicine, Diseases, Etiology.

The prevention of myocardial infarction has to be undertaken on the basis of an understanding of the etiology and pathogenesis of this process. In so far as coronary insufficiency may be due to the large role played by disturbances of the highest levels of nervous activity, preventive measures must be directed to restoring the highest nervous activity into normal channels. Atherosclerosis of the coronary vessels is the usual background against which (and with the aid of which) coronary insufficiency arises. For this reason the prevention of myocardial infarction is indissolubly associated with the struggle against the development of atherosclerosis. Quite often coronary insufficiency (including the kind that leads to myocardial infarction) is provoked and maintained by pathological viscero-visceral, sensory-visceral and other reflexes. The combat against the development of these pathological associations, the cure, the removal of intercurrent diseases and pathological states causing such pathological reflexes is the most important link in the prophylaxis of myocardial infarction. Prophylactic measures must vary with the age of the patients and the stages of the development of the coronary disease. We distinguish four such periods: (a) the period in human life when the person has reached 35-40 years of age without having atherosclerotic manifestations; (b) the period of attempting to prevent myocardial infarction in patients having stenocardia or evidence of atherosclerosis; (c) the pre-infarction state; (d) the period of guarding against repetitive myocardial infarctions. (Author)

Shvedskii, V. P., Teplyakova, Z. G., and Kostina, A. K.
THE THERAPY OF SPRUE WITH FOLIC ACID WITHIN THE COMPLEX OF OTHER THERAPEUTIC METHODS. [1961] 12p. (2 figs. omitted).
Order from OTS or SLA $1.60 62-15311

Trans. of Klinicheskaya Meditsina (USSR) [1955] v. 33, no. 2, p. 38-46.

DESCRIPTORS: *Sprue, Therapy, *Folic acid, Etiology, Climatic factors, Diet.

Treatment of sprue with folic acid is a form of pathogenic therapy. Folic acid treatment of sprue patients removes its clinical manifestations and normalizes hematopoiesis. Use of folic acid in patients with the pernicious anemia like sprue-anemia leads to a diminution of mitotic activity and increased maturation of the cell elements of the red and white series, there being a transition from normomegaloblastic blood formation to the normoblastic; the hyperchromic macrocytic anemia subsiding and the white elements normalizing. The present methods of treating the sprue in hot countries by means of diet, hemotransfusions and campolon give better results when folic acid is also used. (Author)

Sinitsyna, T. A.
COMPARATIVE MORPHOLOGY OF VARIOUS MODELS OF EXPERIMENTAL ATHEROSCLEROSIS OF THE CARDIAC CORONARY ARTERIES.
31 Oct 61 [11]p. 13 refs. JPRS: 10730.
Order from OTS or SLA $1.60 62-13306

Trans. of Arkhiv Patologii (USSR) 1961 [v. 23] no. 7, p. 51-55.

Portions of this report will not reproduce well.

DESCRIPTORS: *Arteriosclerosis, *Arteries, *Heart, Pathology, Cardiac muscle.

The comparative study of experimental atherosclerosis helps in the selection of the most suitable animal species for the reproduction of atherosclerosis of the cardiac coronary arteries. Atherosclerotic changes of the coronary cardiac arteries of rabbits are closest to those in man from the point of view of morphology and morphogenesis. However, the localization of atherosclerotic changes not only in the epicardial branches of the coronaries, but also in the small myocardial arteries do not fully correspond to those observed in humans. The principal localization of atherosclerotic plaques of the coronary arteries of dogs in the large sub-epicardial branches corresponds more closely to the distribution of similar changes in humans. However, in certain details of structure of the atherosclerotic plaques (accumulation of lipoid deposits mainly in the media of the coronary arteries) the model of coronary atherosclerosis of dogs differs somewhat from that of humans. Experimental coronary atherosclerosis in chicken is the least suitable model in regard to the method of its reproduction (under conditions of incomplete starvation) as well as to the localization of changes in the small intramuscular arteries. (Author)

Shteintsaig, A. I. and Rabinovich, R. M.
ON THE PROTRACTED COURSE OF BRONCHIAL CANCER. 17 Oct 61 [15]p. 5 refs. JPRS: 10590.
Order from OTS or SLA $1.60 62-13025

Trans. of Terapevticheskii Arkhiv (USSR) 1961, v. 33, no. 6, p. 23-27.

Portions of this report will not reproduce well.

DESCRIPTORS: *Cancer, *Respiratory system, *Diagnosis, Lungs, X-rays, Tuberculosis, Tumors, Therapy.

In some bronchial cancer patients the disease is characterized by a protracted course. The clinic of protracted forms of bronchial cancer is distinguished either by alteration of exacerbations of the disease with complete remissions, or by a sudden progression of symptoms after a prolonged period of a relatively benign clinical course. (Author)

Sirotinin, N. N.
A. A. BOGOMOLETS (IN COMMEMORATION OF THE EIGHTIETH ANNIVERSARY OF HIS BIRTH).
24 Oct 61 [21]p. 8 refs. JPRS: 10711.
Order from OTS or SLA $1.60 62-13259

Trans. of Vrachebnoe Delo (USSR) 1961, no. 5, p. 3-9.

DESCRIPTORS: *Physiology, Metabolism, Immunology, Pathology.

Biography

Skovranek, Vilem, Kazmar, Atonin, and Roudny, Josef.
REPORTS ON THE EPIDEMIC SITUATION IN CZECHOSLOVAKIA IN 1960 AND THE FIRST THREE MONTHS OF 1961. 15 Sep 61 [12]p. 1 ref. JPRS: 10136.
Order from OTS or SLA $1.60 62-19626

Trans. of Casopis Lekaru Ceskych (Czechoslovakia) 1961 [v. 100] no. 21, p. 662-664.

DESCRIPTORS: *Infections, *Epidemiology, *Vital statistics, Brucellosis, Poliomyelitis, Typhus fever, Czechoslovakia.

Smirnov, L. I.
ON THE QUESTION OF MORPHOLOGICAL INVESTIGATION OF THE FUNCTIONAL STATES OF THE NERVOUS SYSTEM (K Voprosu o Morfologicheskom Izuchenii Funktsional'nykh Sostioanii Nervnoi Sistemy). [1961] 21p. 6 refs.
Order from OTS or SLA $2.60 62-15338

Trans. of Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1956, v. 6, no. 1, p. 76-86.

DESCRIPTORS: *Nervous system, Morphology, Metabolism, Glycogen, Lipids, Inhibition, Histology, Brain, Mental diseases.

To construct a picture of the morphological counterpart of inhibitory processes, investigation of the whole neurone is required, and not merely of separate fragments of its complex structure, such as Nissl substance or "indifferent protoplasm". Defensive transmaximal inhibition corresponds to almost complete disappearance of Nissl substance and to the beginning of its regeneration. This is expressed morphologically as peripheral achromatosis, swelling of the argyrophil neurofibrillary conducting substance, and a disturbance of metabolism which shows itself in the appearance of abnormal deposits of glycogen and lipids. It is important to deepen our understanding of the morphological expression of the inhibitory state, especially by extending histochemical investigations and by investigating the glial apparatus and vascular system. (Author)

Smol'yannikov, A. V.
RESULTS OF DISCUSSION OF PROBLEMS ON PATHOGENESIS OF ACUTE CORONARY INSUFFICIENCY AND MYOCARDIAL INFARCTION. [1961] 29p. 72 refs. [NIH] no. 41.
Order from OTS or SLA $2.60 62-15140

Trans. of Arkhiv Patologii (USSR) 1957, v. 19, no. 5 p. 3-13.

DESCRIPTORS: Diseases, *Heart, *Blood circulation, *Cardiac muscle.

Strukov, A. I.
THE DYNAMICS OF TISSUE CHANGES IN RHEUMATISM. 31 Oct 61 [32]p. 141 refs. JPRS: 10728.
Order from OTS or SLA $3.60 62-13325

Trans. of Arkhiv Patologii (USSR) 1961 [v. 23] no. 7, p. 3-19.

DESCRIPTORS: *Rheumatism, *Tissues (Biology) *Pathology, *Injuries, Cells (Biology), Adrenal glands, Therapy, Ascorbic acid, Bibliography.

A review of the literature indicates that the morphological changes occurring within the connective tissues during the course of rheumatic fever and arthritis are separated into 4 distinct pathological processes. These are (1) mucoid swelling, (2) fibrinoid changes, (3) granulomatosis and (4) sclerosis. The first two stages are reversible. Recognition of these initial changes is essential for preventing the last two phases which cause permanent damage to connective tissues, particularly of the heart and blood vessel walls. The clinical symptoms of these early stages of connective tissue pathology include mucoid edema of the interstitial substance, with a redistribution of polysaccharides and glycoproteins. These changes are the result of a streptococcus infection. Antibodies are formed against the streptococcus infection and the organism's own connective tissue. Antibody formation is manifest by cellular reactions in the tonsils, lymphatic nodes and spleen. These are confirmed by histochemical examination on the elicitation of ribonucleoproteins in the cytoplasm of the plasmic cells. Ascorbic acid deficiency found in the connective tissues may be an inhibiting factor in connective tissue restoration, and should be considered in the therapy of rheumatism and arthritis.

Tarakanov, E. I.
HORMONALLY ACTIVE TUMORS OF THE ADRENAL CORTEX. [1961] 20p. 27 refs. [NIH] no. Ab-544.
Order from OTS or SLA $1.60 62-15106

Trans of Problemy Endokrinologii i Gormonoterapii (USSR) 1956, v. 2, no. 5, p. 61-71.

DESCRIPTORS: *Tumors, Corticosteroids, Hormones, Steroids, Histology.

Case histories.

Verbev, P., Zhelyazkov, S. and others.
THE 1959 INFLUENZA EPIDEMIC IN SOFIA, BULGARIA. 22 Jan 62 [11]p. JPRS: 12092.
Order from OTS or SLA $1.60 62-19660

Trans. of Suvremenna Meditsina (Bulgaria) 1961, v. 12, no. 2, p. 31-35.

DESCRIPTORS: *Influenza viruses, *Epidemiology, *Bulgaria.

Zdzienicki, Stanislaw and Diechtiar, Marek.
AEROSOL PARTICLE STUDIES AT THE MILITARY INSTITUTE OF HYGIENE AND EPIDEMIOLOGY (Okreslanie Wielkosci Czasteczek Aerosoli).
19 June 61 [11]p. (7 figs. omitted). JPRS: 9426.
Order from OTS or SLA $1.60 62-19309

Trans. of Przeglad Epidemiologiczny (Poland) 1961, v. 15, no. 1, p. 67-74.

DESCRIPTORS: *Aerosols, Particles, Measurement. Microphotography, Medical research.

Use of microphotography for the determination of the size of aerosol particles enabled the study of a very large number of particles and the determination of their size. The medium (1/3 white vaseline and 2/3 fluid paraffin) preserved the traces of aerosol particles without noticeably changing their shape or size. The atomizers produced aerosol with uniform size particles from 49.11 to 73.48 percent.

Zimont, D. I.
PRESENT STATE OF THE PROBLEM OF THERAPY FOR PATIENTS WITH LARYNGEAL CANCER (Sovremennoe Sostoyanie Voprosa o Lechenii Bol'nykh Rakom). [1961] 24p. 29 refs. [NIH]-132.
Order from OTS or SLA $2.60 62-15110

Trans. of Vestnik Oto-Rino-Laringologii (USSR) 1956, v. 17 [Nov/Dec] p. 3-12.

DESCRIPTORS: *Cancer, *Larynx, Therapy, Radioactive isotopes, Antibiotics

Pharmacology and Toxicology

CZECHOSLOVAK DIRECTIVES ON MANAGEMENT OF NARCOTICS AND QUALITY CONTROL OF MEDICINES. (NO. 34). 27 Nov 61 [51]p. JPRS: 11301.
Order from OTS or SLA $5.60 62-19551

Trans. of Ministerstvo Zdravotnictvi [Prague]. Vestnik (Czechoslovakia) 1961, v. 9, no. 14/15, p. 150-158 and no. 16, p. 169-174.

DESCRIPTORS: *Narcotics, Control, Research program administration, Distribution, Manufacturing methods, Preventive medicine, Therapy, *Drugs, Standards, Veterinary medicine.

Contents:
Directives on control of narcotics
Directives on quality control of medicines.

CZECHOSLOVAK USE OF OSCILLOPOLAROGRAPHY IN STUDY OF FOOD CONTAMINATION AND BARBITURATES. 10 Aug 61 [15]p. JPRS: 4857.
Order from OTS or SLA $1.60 62-19692

Trans. of Chemicke Zvesti (Czechoslovakia) 1960, v. 14, no. 11/12, p. 757-761 and 818-821.

DESCRIPTORS: *Food, Contamination, *Barbiturates, Oscillographs, Polarographic analysis.

Contents:
Oscillopolarographic determination of contamination in foodstuffs in Czechoslovakia, by V. Jedlicka and A. Pasek

The oscillopolarographic study of barbiturates in Czechoslovakia, by J. Prokes and R. Vorel.

INFORMATION ON THE PHARMACEUTICAL SERVICE IN CZECHOSLOVAKIA. 22 Jan 62 [11]p. JPRS: 12060.
Order from OTS or SLA $1.60 62-19693

Partial trans. (some parts summarized) of Farmaceuticky Obzor (Czechoslovakia) 1961, v. 30, no. 6, p. 161-167 and 185-188.

DESCRIPTORS: *Pharmacology, Medical personnel, Personnel, *Czechoslovakia.

Contents:
Method of determining the number of employees in the pharmaceutical service, by J. Solich
Experiences in establishing pharmacies, by D. Ruzickova.

SCIENTIFIC DEVELOPMENT IN NORTH VIETNAM. 17 Nov 60 [15]p. JPRS: 5693.
Order from OTS or SLA $1.60 62-19356

Trans. of Tin Tuc Hoat Dong Khoa-Hoc [sic] (North Vietnam) 1960 [no. 7] p. 1-2 and 32-33.

DESCRIPTORS: *Scientific research, Research program administration, Conferences, *Surgery, *Vietnam.

Contents:
The first five-year plan for scientific and technical study, by Le Khac
All North Vietnam Surgery Meeting (no. 1) by Luong Tan Truong.

Aganyants, E. K.
EFFECTS OF CHLORPROMAZINE AND ETHYZINE ON CONDITIONED REFLEXES IN DOGS, tr. by R. Crawford. [1961] [17]p. (2 figs. omitted) 19 refs.
Order from OTS or SLA $1.60 62-13886

Trans. of #Zh[urnal] Vyssh[ei] Nervn[oi] Deyatel [hosti] (USSR) 1960, v. 10, no. 6, p. 842-850.

DESCRIPTORS: Dogs, *Conditioned reflex, *Phenothiazine derivatives, *Chlorpromazine, Effectiveness, *Drugs.

Chlorpromazine in dosage of from 0.5 to 20 mg/kg produced sharp deterioration in the higher nervous activity of dogs. Their alimentary conditioned reflexes were reduced with a dose of 0.5 mg/kg and were completely abolished with doses of 1.5 mg/kg. Protective respiratory conditioned reflexes disappeared when the chlorpromazine dose was 5 mg/kg. Ethyzine 0.5 mg/kg increased the values of the positive secretory conditioned reflexes and disinhibited differentiation. Larger doses (1 to 25 mg/kg) led to reduction of and complete disappearance of the secretory alimentary conditioned reflex. The defensive respiratory conditioned reflexes were lost when the ethyzine dose was 10 mg/kg. The conditioned reflexes were restored after small doses of chlorpromazine (0.5 to 1.5 mg/kg) or ethyzine (0.5 to 3 mg/kg) in the course of one or two days, and after three to six days with larger doses (5 to 25 mg/kg). The defensive respiratory conditioned reflexes became normal more rapidly than the salivary reflexes. (Author)

Kaverina, N. V.
INFLUENCE OF PHARMACOLOGICAL SUBSTANCES ON THE CORONARY CIRCULATION. [1961] [6]p.
Order from OTS or SLA $1.10 62-13089

Trans. of mono. [S'ezd Vsesoyuznogo Obshchestva Fiziologov, Biokhimokov i Farmakologov (no. 9)] (Congress of the All-Union Society of Physiologists, Biochemists and Pharmacologists (no. 9)) v. 3, Moscow/Minsk, 1959, p. 220-224.

DESCRIPTORS: *Heart, *Blood circulation, Drugs, Pharmacology, Phenothiazine derivatives.

With respect to their action mechanism on the coronary circulation, the compounds of the phenothiazine series studied by us may be classified in the group of substances affecting the peripheral innervation of the coronary vessels. When the resistance of the blood vessels of the heart is recorded (with the aid of a perfusion pump at constant perfusion volume), a reflex constriction of the blood vessels of the heart can be observed in response to the stimulation of the mechanoreceptors of the carotid sinus and electric stimulation of the afferent nerves. Further observations showed that this kind of reflex changes of the tonus of the coronary vessels can be substantially changed by analgesics and other pharmacological agents. Only a few of the pharmacological substances used in the therapy of coronary insufficiency are outstanding for their effectiveness. (Extracted)

Messineva, N. A., Garin, N. D., and Karaseva, E. V.
FUNCTIONAL STATE OF THE LIVER FOLLOWING ADMINISTRATION OF PROTEIN BLOOD SUBSTITUTES (LSB AND BK-8). 24 Oct 61 [6]p. JPRS: 10672.
Order from OTS or SLA $1.10 62-13034

Trans. of Khirurgiya (USSR) 1961 [v. 37] no. 7, p. 130-132.

DESCRIPTORS: Drugs, *Plasma substitutes, *Liver, Physiology, Pathology, Bile pigments, Urine, Blood.

The effects on the liver function of heterogenous proteins (LSB and BK-8) administered in the treatment of 54 patients were investigated. Of these patients 21 had ulcer disease, 7 had cancer, 16 had osteomyelitis, 3 cirrhosis of the liver, and 7 had other diseases. Blood was examined for bilirubin content and urine for urobilin excretion prior to the injections.

After the injections the same tests were done on the blood after 1 hour, 24 hours, and 120 hours, and on the urine on the 2nd, 3rd, 4th and 5th day. The bilirubin concentration in the blood rose, and the excretion of urobilin in the urine increased. There was no correlation between the size of the dose and the extent of these changes. These studies indicate that it is expedient to evaluate the functional state of the liver by examining the pigment function after administration of

these heterogenous proteins. The quick test and the thymol test were unreliable for the evaluation of the hepatic function when these drugs are being administered.

Milosevic, Milenko and Vojvodic, Vladimir.
SOME PHARMACOLOGICAL EFFECTS OF PYRIDINE-2-ALDOXIM-METHIODIDE-PAM 2 AND NN'-TRIMETHYLENEBIS (r-HYDROXYIMINOMETHYL PIRIDINIUM (TMB 4). 29 Dec 60 [20]p. 29 refs.
JPRS: 7409.
Order from OTS or SLA $1.60 62-19373

Trans. of Vojnosanitetski Pregled (Yugoslavia) 1960, v. 17, no. 2, p. 164-167.

DESCRIPTORS: *Pharmacology, *Pyridines, *Oximes, Inhibition, *Poisoning, Propyl radicals, Fluorides, Phosphates, Enzymes, *Cholinesterase, Insecticides, *Phosphorus compounds, Drugs.

Pharmacological action of PAM-2 and TMB-4 was tested "in vivo" on white mice and rats, and "in vitro" on m. rectus abdominus of the frog. The action of the above-mentioned oximes was tested in respect to increased arterial tension following injection of DFP (diisopropioxyphosphoril fluoride), as well as their retroactive force after inhibition of cholinesterases. In this connection the protective force of PAM-2 and TMB-4 in acute DFP poisoning was observed. (Author)

Mitrofanov, A. I.
EPHEDRINE AS AN ANTAGONIST OF CHOLINOLYTICS. [1961] [12]p. 19 refs.
Order from OTS or SLA $1.60 62-13585

Trans. of mono. Gangliolitiki i Blokatory Nervnomyshchechnykh Sinapsov (Gangliolytics and Blocking Agents of Neuromuscular Synapses). Leningrad, 1958, p. 130-140.

DESCRIPTORS: *Ephedrine, Inhibition, *Cholines, Acetylcholines, *Autonomic nervous system, *Neuromuscular transmissions, Nerves, *Ganglia, Pharmacology, Hexonium.

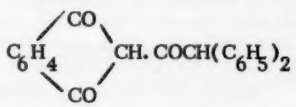
Ephedrine increases conductivity, increases lability, and reinforces the electrical activity of the superior cervical ganglion in the cat (results of sharp experiments). Ephedrine in small doses and H-cholinolytics (Tetamon-I and Hexonium) are antagonists in their action upon the conductivity and the functional mobility of the superior cervical ganglion. The antagonistic action of ephedrine and Tetamon-I and of ephedrine and Hexonium is clearly manifested in their effect upon the cholinoreactive systems of the ganglia of the sympathetic vasoconstrictor nerves. The antagonism between ephedrine and Tetamon-I is clearly manifested in their effect upon the ganglia of the cardiac vagus nerves, while the antagonism between ephedrine and atropine is clearly manifested in their effect upon the M-cholinoreactive systems in the region of the endings of the vagus nerves of the rabbit heart. The duration of the blocking action of Paramyon on the H-cholinoreactive systems of the neuromuscular synapses in the rabbit is cut nearly in half by the injection of ephedrine. (Author)

Nikolaeva, N. and Vanag, G.
NEW EFFECTIVE RATICIDE: DIPHENYLACETYLINDANDIONE (DIPHENATSIN). 23 Oct 61 [8]p. 7 refs.
JPRS: 10797.
Order from OTS or SLA $1.10 62-13238

Trans. of Akademiya Nauk Latviiskoi SSR, Riga. Izvestiya, 1960, no. 5(154) p. 81-84.

DESCRIPTORS: *Pest control, *Rats, Drugs, *Dipaxin, Blood coagulation, Inhibition, Toxicity.

The synthetic anti-coagulant 2-diphenylacetylindandione-1, 3



which was synthesized in the Latvian SSR Academy of Sciences (Akad. Nauk Latviiskoi SSR, Riga. Izvestia 1955: no. 9, 111; and 1958: no. 1, 107) was found to be an exceptionally effective raticide. In comparison with other anti-coagulants its toxicity is selective and it is significantly less toxic for sheep, calves, rabbits, and hens than is zoocoumarin. In laboratory tests concentrations of 0.02% brought about 100% extermination of gray rats. Laboratory tests have been confirmed by field tests in the city of Leningrad.

Nowicga, Jadwiga.
PHARMACY IN POLAND (O Aptekach Wylacznie Pozytywnie). 18 Sep 61 [17]p. JPRS: 10192.
Order from OTS or SLA $1.60 62-19532

Trans. of Farmacja Polska, 1961 [v. 17] no. 8, p. 159-163.

DESCRIPTORS: *Pharmacology, *Drugs, *Poland, Antibiotics.

Parrak, V.
REVIEW OF STANDARD CONTROL OF MEDICINES AND WORK ON PHARMACOPEIA IN CHINA (Kratky Prehled o Kontrole Lieciv a o Liekopisnych Pracach v Cine). 31 Jan 61 [6]p. 1 ref. JPRS: 7671.
Order from OTS or SLA $1.10 62-19388

Trans. of Farmacia (Czechoslovakia) 1960, v. 29, no. 5, p. 154-156.

DESCRIPTORS: *Drugs, *Pharmacology, *China, Biological laboratories, *Standards, Control, Medicine.

Puscaru, E.
NEW SOVIET ACHIEVEMENTS IN PHARMACOTHERAPY. 11 Oct 61 [14]p. JPRS: 10436.
Order from OTS or SLA $1.60 62-23266

Partial trans. of Farmacia (Rumania) 1961 [v. 9] no. 4, p. 195-203.

DESCRIPTORS: Drugs, Therapy, *Pharmacology, Cancer, Circulatory systems, Inflections, Diseases.

Sandor, Igali.
RADIO-MIMITIC COMPOUNDS. 24 Apr 61 [5]p.
JPRS: 4558.
Order from OTS or SLA $1.10 62-19430

Trans. of Elet es Tudomany (Hungary) [1961] v. 16, no. 8, p. 232-235.

DESCRIPTORS: *Nitrogen mustards, Mustard gas, Ethanes, Chlorides, Chlorine, Ionization, Radiation effects, *Cancer, Cells (Biology), Mutations, Genetics, Therapy.

Information is reviewed in nontechnical language on the compounds that "mimitic" radiation, the way radio mimitic compounds act, their carcinogenetic effect, and the resemblance between the effects of the radio-mimitic compounds and those of ionizing radiation.

Siuchninska, Helena and Napieralska, Miroslawa.
RESULTS IN PHARMACOTHERAPY. 10 Aug 61 [13]p. JPRS: 8722.
Order from OTS or SLA $1.60 62-19475

Trans. of Polski Tygodnik Lekarski, 1961, v. 16, no. 14, p. 517-522.

DESCRIPTORS: *Mental diseases, Therapy, *Shock therapy, *Tranqulizing drugs, Drugs, Chlorpromazine, Reserpine, Insulin, Effectiveness, Pharmacology.

The annual reports are analyzed of all chiefs of the departments of the Psychiatric Clinic of the Lodz Medical Academy and the Kochanowka Hospital for Nervous and Mental Patients in the year 1959. A compilation is made of the results of treatment of the diseases with neuroleptics and with combined methods (neuroleptics + insulin).

Smecka, V. and Solich, J.
PHARMACEUTICS IN THE ALBANIAN PEOPLE'S REPUBLIC. 8 Jan 62 [12]p. JPRS: 11854.
Order from OTS or SLA $1.60 62-19694

Trans. of Farmaceuticky Obzor (Czechoslovakia) 1961, v. 30, no. 4, p. 97-103.

DESCRIPTORS: *Pharmacology, Drugs, Medicine, Albania.

Stern, P. and Boskovic, B.
CONTRIBUTION TO THE TREATMENT OF TABUN POISONING. 1 June 61 [10]p. 39 refs. JPRS: 4672.
Order from OTS or SLA $1.10 62-19370

Trans. of Vojnosanitetski Pregled (Yugoslavia) 1960, v. 17, no. 10, p. 1008-1011.

DESCRIPTORS: *Phosphorus compounds, *Insecticides, *Poisoning, Countermeasures, Cholinesterase, Atropine, Pyridines, Toluenes.

Experiments on white mice showed that β-diethylaminoethyl diphenylpropylacetate of hydrochloride (SKF-525A) intensifies the effect of atropine and of 2-pyridine aldoxime methyliodide (PAM-2), thereby decreasing the toxicity of tabun. Diacetylmonoxime (DAM) showed a poor antidotal effect in tabun poisoning. A combination of DAM (20 mg/kg) and PAM-2 (20 mg/kg) with SKF-525A (50 mg/kg) and atropine (5 mg/kg) protected all 12 animals poisoned with $1xLD_{100}$ of tabun. TMB-4 in doses of 12 and 24 mg/kg respectively resulted in a survival of 5 out of 12 and 10 out of 18 poisoned animals. Doses of 5 mg/kg TMB-4 with 50 mg/kg SKF-525A protected 15 out of 18 poisoned animals: 5mg/kg of TMB-4 with 5mg/kg of atropine saved 14 out of 18 animals. A combination of 12 mg/kg of TMB-4, 50 mg/kg of SKF-525A and 5mg/kg of atropine protected 12 out of 12 animals poisoned with $2xLD_{100}$ of tabun and 5 out of 12 animals poisoned with $4xLD_{100}$. Butylhydroxitoluol (BHT) intensified the action of PAM-2, showing a positive effect in tabun poisoning. TMB-4 in combination with SKF-525A and atropine was far more effective in the therapy of tabun poisoning than the combination of PAM-2 with SKF-525A and atropine.

Radiobiology

MEDICAL RADIOLOGY, 1961, VOL. 6, NO. 11.
9 Apr 62 [173]p. refs. JPRS: 13400.
Order from OTS or SLA $12.50 62-23830

Trans. of Meditsinskaya Radiologiya (USSR) 1961, v. 6, no. 11, p. 1-97.

DESCRIPTORS: *Radiobiology, Medicine, *Lungs, *Cancer, X-rays, Tumors, Therapy, Radiation effects, *Ascorbic acid, *Metabolism, Radiation injuries, *Radioprotective drugs, *ACTH, *Heart, *Hyperthyroidism, Iodine, Gold, Radioactive isotopes, Surgery, *Thyroid gland, *Liver, TNT, Blood proteins, Radon, Fluorine, Strontium, *Beta particles, *Tracer studies, Radiation sickness, *Hemoglobin, *Embryos.

Contents:
Rotation Roentgen therapy of pulmonary cancer on a rotating table, by I. A. Pereslegin, N. A. Peresleni and E. M. Fil'kova
Method of combined treatment of malignant melanoma, by T. G. Larioshchenko and T. D. Shchelokova
Vitamin C metabolism in patients with carcinoma during radiation therapy, by S. B. Tagi-Zade
A comparative assessment of the action of emulsion from the juice of Aloe Arborescens and Aloe Striatula for the prevention of radium injuries, by N. P. Mordvinova and B. K. Rostotskii
The use of ACTH during the action of ionizing radiation on the organism under clinical and experimental conditions, by M. Ya. Chaikovskaya and others
Roentgenokymographic observations of the contractile capacity of the heart in thyrotoxicosis patients treated with radioiodine, by M. I. Neporent and V. G. Spesivtseva
External radiation in the use of radiogold in surgery, by S. V. Ryzhkov and M. L. Rostov
The method of gammatopography (scanning) in diseases of the thyroid gland, by P. F. Zabletskii and others
Investigation of the liver function with I^{131}-labeled

Rose Bengal in acute and chronic trinitrotoluene intoxication, by M. I. Smirnova
The influence of various types and doses of irradiation on the protein composition of rabbit's blood serum, by M. A. Darakhvelidze
The effect of radon on the temperature of internal organs, by V. A. Pegel' and G. A. Dokshina
The effect of fluorine on Sr^{90} accumulation in the skeletons of rats, by V. A. Knizhnikov
Experimental determination of the half-value layer for soft Beta-radiation and determination of the thickness of the gas-counter window, by R. S. Mil'shtein
A visual method of determining trace-level activities, by V. K. Lyapidevskii and T. G. Pavlova
On the reactivity of the organism to medicinal substances in radiation sickness, by V. E. Belai and others
Radioiodine therapy of thyrotoxicosis, by G. M. Sil'kis
The radiobiological effect of hemoglobin labilization in radiation therapy, by E. A. Bauman
The prevention and treatment of radiation sickness and gravid animals and their fetuses by means of cystamine and batyl alcohol, by V. N. Dudin
Book reviews
Current events.

Apateanu, V., Nicoara, S., and Grigoriu, Gh.
EXPERIMENTAL HEMATOLOGICAL RESEARCH ON IRRADIATED RATS TREATED WITH HOMOLOGOUS BONE MARROW. 10 July 61 [13]p. JPRS: 9649.
Order from OTS or SLA $1.60 62-19208

Trans. of Medicina Interna (Rumania) 1961, v. 13, no. 1, p. 97-104.

DESCRIPTORS: *Radiation injuries, *Bone marrow, Intravenous injection, Therapy, Blood, Cells (Biology).

In rats irradiated with a lethal dose of X-rays, a survival of 60% was obtained by homologous bone marrow grafts as compared to 34% in the control lot. The optimal dose of X-rays is 950 r, which represents DL 64 at 40 days. The protection afforded by bone marrow is in direct proportion with the injected cells, the route of administration, and the source of the grafted material. Hematologic regeneration is more prompt and more marked in the grafted rat than in the control. The immunologic reaction of the irradiated rats is markedly diminished, but it becomes serious and attains quite a high level at 60 days after graft and irradiation. (Author)

Chubakov, A. A. and Luzanova, L. M.
INVESTIGATION OF THE CHEMICAL COMPOSITION OF THE CRYSTALLINE LENS OF THE EYE IN RADIATION CATARACT. [1961] [19]p. 5 refs.
Order from OTS or SLA $1.60 AEC-tr-4673

Trans. of mono. Izuchenie Khimicheskogo Sostva Khrustalika Glaza pri Luchevoi Katarakte, Moscow, 1960 [19p.].

DESCRIPTORS: *Eye, X-rays, Exposure, Radiation effects, Tissues (Biology), *Radiation injuries, Chemical analysis.

It was established that when the lens becomes cloudy, the potassium content is depleted and the content in chlorine and sodium is enriched. Similar changes are observed also in case of senile cataract. Change of the chemical composition of the lens takes place simultaneously with the opacity. The data obtained on the chemical composition of the vitreous body show that nourishment of the crystalline lens by sodium and by chlorine takes place across the vitreous body while the sodium is supplied across the liquid in the anterior chamber. (Author)

Doroszewski, Jan.
PROGRAM OF LECTURES AND EXERCISES FOR NUCLEAR MEDICINE AT THE POLISH MEDICAL ACADEMY. 20 Jan 61 [8]p. JPRS: 6682.
Order from OTS or SLA $1.10 62-19300

Trans. of Polski Tygodnik Lekarski, 1960, v. 15 [no. 36] p. 1382-1384.

DESCRIPTORS: *Nuclear physics, *Medicine, Radiological physics, *Radiobiology.

Efroimson, V. P.
CONTROL MECHANISMS IN RADIATION SICKNESS. 27 Feb 62 [33]p. 79 refs. JPRS: 12712.
Order OTS or SLA $3.60 62-19810

Trans. of #Problemy Kibernetiki (USSR) 1961, no. 6, p. 183-205.

DESCRIPTORS: *Radiation sickness, Radiation injuries, Cells (Biology), Cybernetics, Control.

Gracheva, N. D.
AUTORADIOGRAPHIC STUDY OF THE DISTRIBUTION OF RADIOACTIVE PHOSPHORUS (p^{32}) IN SOME DIVISIONS OF THE NERVOUS SYSTEM. [1961] 7p. 12 refs.
Order from OTS or SLA $1.10 62-15010

Trans. of a Russian language article from an unidentified source, n. p., 1956(?).

DESCRIPTORS: *Radioactive isotopes, *Phosphorus, Distribution, *Nervous system, Autoradiography.

Fifteen rabbits were subcutaneously injected with the sodium salt of phosphoric acid. Radioactive phosphorus was randomly distributed in nerve tissue. Large differences in the intensity of the incorporated isotope were observed in the gray and white matter of the brain and spinal cord. The sensory motor cells incorporate radiophosphorus noticeably more than the central nervous system, in which the incorporated isotope is selectively found in the nerve cells. The nerve trunk of the facial nerve incorporated more isotope than the nerve trunk of the peripheral nervous systems; but in both of these cases, more radioactive isotope was incorporated than in the white matter of the brain.

Jona, Gabor.
CONGRESS OF BULGARIAN RADIOLOGISTS (NO. 1) AND A VISIT TO BUCHAREST. 19 Apr 61 [7]p. JPRS: 4540.
Order from OTS or SLA $1.10 62-19244

Trans. of Magyar Radiologia (Hungary) 1961, v. 13, no. 1, p. 54-57.

DESCRIPTORS: Conferences, *Bulgaria, *Radiobiology, Diagnosis, Therapy, X-rays.

Kandror, V. I.
CHANGES IN THE HYPOPHYSO-ADRENAL SYSTEM UNDER THE EFFECT OF IONIZING RADIATIONS UPON THE ORGANISM REVIEW OF THE LITERATURE (Izmeneniya Gipofizarno-Adrenalovoi Sistemy pri Vozdeistvii na Organizm Ioniziruyushchikh Izluchenii). 21 Nov 61 [20]p. 115 refs. JPRS: 11168.
Order from OTS or SLA $1.60 62-13538

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1961, v. 7, no. 3, p. 117-124.

DESCRIPTORS: *Bibliography, *Endocrine glands, Secretion, Pituitary gland, Adrenal glands, Physiology, Ionization, *Radiation effects.

Most of the data in the literature attests to the fact that the initial reaction of the hypophyso-adrenal system to irradiation consists of the intensification of its activity, although some contrary results have been described. Information regarding subsequent changes is much more contradictory. (Extracted)

Katsin, V. V.
PROTECTIVE CABINS FOR THERAPY WITH RADIOACTIVE PREPARATIONS, tr. by L. Summerfield. [1961] [4]p. (3 figs. omitted).
Order from OTS or SLA $1.10 62-13979

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 104-106.

DESCRIPTORS: *Shelters, Reinforced concrete, Tumors, Therapy, *Radioactive isotopes, *Radiation effects, Shielding, *Cancer.

Klvana, M., Pivonka, M. and others.
CANCER THERAPY BY MEANS OF INTRATUMORAL DEPOSITION OF RADIOACTIVE COLLOIDS AND SUSPENDOIDS: RESULTS AND LIMITS OF THE TREATMENT. 11 Jan 62 [8]p. JPRS: 11903.
Order from OTS or SLA $1.10 62-19749

Trans. of Neoplasma (Czechoslovakia) 1961, v. 8, no. 3, p. 331-335.

DESCRIPTORS: *Cancer, *Therapy, *Tumors, *Radioactive isotopes, *Colloids.

SOVIET SURGERY: RECENT ARTICLES. 16 Feb 62 [25]p. 19 refs. JPRS: 12646.
Order from OTS or SLA $2.60 62-19756

Trans. of Eksperimental'naya Khirurgiya i Anesteziologiya (USSR) 1961, v. 6, no. 5, p. 3-10, 44-48, 55-56.

DESCRIPTORS: *Surgery, *Bone, *Transplantation, Tumors, Excision, *Liver, *Tissues (Biology), *Esophagus, Plastic surgery, Polymers, Ethylenes.

Contents:
Replacing bone defects with bone transplants after removing benign tumors, by N. N. Priorov and others
The use of kapron cloth in liver resectioning in experiment, by A. F. Oberfel'd
Pathomorphological changes occurring in tissues around a polyethylene prosthesis in the course of restoring the continuous functioning of a resected esophagus, by L. G. Kharitonov.

Anichkov, M. N., Balyuzek, F. V. and others.
ALLOPLASTY OF THE AORTIC ARCH SEGMENT WITH THE OSTIUM AND TRUNK PORTION OF THE LEFT SUBCLAVICULAR ARTERY. 9 Nov 61 [8]p. 5 refs. JPRS: 10988.
Order from OTS or SLA $1.10 62-13315

Trans. of Vestnik Khirurgii (USSR) 1961 [v. 87] no. 7, p. 15-18.

DESCRIPTORS: *Plastic surgery, *Transplantation, Arteries, Aorta, *Plastic tubing, Thrombosis, Inhibition, Hypothermia.

Alloplastics of the aorta with the formation of an aortic-subclavicular T-junction, as per P. A. Kupriyanov, represents a successful solution of the possibility of resecting an affected segment of the aortic arch without cutting the subclavicular artery of its ligation. When an alloplastics of the aorta is needed in combination with the plastics of the trunk part of the left subclavicular artery, it is worth while transferring the ostium of the subclavicular artery in its distal direction and increasing the angle of its branching off in relation to the aortic trunk. In aortic plastic according to the above described method, there is usually no need of employing anticoagulants during the postoperative period; however, a daily control must be exercised of the hemodynamic and biochemical indexes for the timely prevention of thrombosis. Shunting of the aortic segment in aneurysms of the aorta with the use of the subclavicular artery and a prosthesis does not, of course compete with the method extracorporeal shunting; however, when no facilities exist for the latter, it may serve as the method of choice. (Author)

Atiasov, N. I.
TEN YEARS OF INTRAOSSEOUS ANAESTHESIA (Desyatiletie Metoda Vnutrikostnoi Anestezii) tr. by R. Crawford. [1961] [11]p. 26 refs. [NIH]-1.
Order from OTS or SLA $1.60 62-15157

Trans. of Ortopediya Travmatologiya i Protezirovanie (USSR) 1956, v. 17, no. 6, p. 71-74.

DESCRIPTORS: Surgery, Anesthesia, Injection, *Bone, Procaine, *Anesthetics.

Bartos, Gabor, Szollossy, Laszlo and others.
EXPERIENCE IN THE REPLACEMENT OF VASCULAR DEFECTS WITH PROSTHESIS PREPARED FROM COMBINED AUTO-ALLOPLASTIC AND POROUS ALLOPLASTIC MATERIAL. 9 Nov 61 [9]p. 18 refs.
JPRS: 10987
Order from OTS or SLA $1.10 62-13338

Trans. of Vestnik Khirurgii (USSR) 1961 [v. 86] no. 7, p. 10-14.

DESCRIPTORS: *Plastic surgery, *Blood vessels, Medical equipment, Plastics, Prosthesis, Transplantation.

A report presented at the Conference of Surgeons in Budapest 3-5 November 1960.

Vikhriev, B. S. and Matusevich, M. Ya.
COMPARATIVE EVALUATION OF ANESTHESIA IN SURGICAL TREATMENT OF BURNS (Sravnitel'naya Otsenka Metodov Obezbolivaniya pri Khirurgicheskom Lecheryu Ozhogov). [1961] 10p. 19 refs.
Order from OTS or SLA $1.10 62-15325

Trans. of Khirurgiya (USSR) 1959, v. 35, no. 9, p. 33-37.

DESCRIPTORS: *Burns, Surgery, Therapy, *Anesthesia.

The safest method (the most harmless) of anesthesia in free skin grafting procedures in burn patients is local infiltration anesthesia. But its application in plastic surgery covering of wounds with areas in excess of 300 cm^2 is technically difficult, frequently does not afford complete pain killing and may be accompanied by manifestations of novocain toxicity. Local infiltration anesthesia does not improve the chances for a take in free skin graft transplants. Use of general anesthesia in free skin grafting procedures permits the conduct of surgery with a minimum of psychic trauma. The most advisable method is the intratracheal. Free skin transplantation for covering areas in excess of 500 cm^2, is traumatic surgical intervention not infrequently accompanies by operative shock. Intratracheal anesthesia with the use of curare-like substances, controlled respiration and timely replacement of blood loss during surgery, appears to be the basic means for preventing surgical shock in free skin grafting procedures in burn patients. (Author)

Yudaev, Yu. I.
"ARTIFICIAL STOMACH" AFTER GASTRECTOMY FOR CANCER (A FOLLOW-UP) tr. by L. Summerfield. [1961] [10]p. 31 refs.
Order from OTS or SLA $1.10 62-13964

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 11, p. 22-26.

DESCRIPTORS: *Cancer, *Stomach, *Surgery.

Zoology

Fortunatova, K. P.
AVAILABILITY OF STICKLEBACKS AS FOOD FOR THE PREDACIOUS FISHES OF THE VOLGA DELTA (Dostupnost Kolyushki dlya Pitaniya Khishchnykh Ryb Delty Volgi) tr. by John Magnuson. 1961, 18p. 20 refs. FRBC Trans. series no. 331.
Order from NRCC NRCC C-3768

Preliminary trans. of Zoologicheskii Zhurnal (USSR) 1959, v. 38, no. 11, p. 1689-1701.

DESCRIPTORS: *Fishes, *Food, Abundance, Ecology, Deltas, USSR.

Krotov, A. I.
ZOOGEOGRAPHICAL ANALYSIS AND A HYPOTHESIS OF THE ORIGIN OF THE HELMINTH FAUNA OF THE VERTEBRATES OF SAKHALIN (Zoogeograficheskii Analiz i Gipoteza Proiskhozhdenia Gelmintofauny Pozvonochiykh Sakhalina) tr. by W. E. Ricker. 1961, 12p. 5 refs. FRBC Trans. series no. 334.
Order from NRCC NRCC C-3772

Preliminary trans. of Zoologicheskii Zhurnal (USSR) 1960, v. 39, no. 4, p. 481-489.

DESCRIPTORS: Mammals, Birds, Fishes, *Parasites, *Worms, Sources, Parasitology, Biology, Geography, Aquatic animals.

Nikolskii, G. V.
CONCERNING THE INFLUENCE OF EXPLOITATION ON THE STRUCTURE OF THE POPULATION OF A COMMERCIAL FISH (O Vliyanii Vylova na Strukturu Populyatsii Promyslovoi Ryby) tr. by W. E. Ricker. 1961 [25]p. 49 refs. FRBC Trans. series no. 280.
Order from NRCC NRCC C-3826

Preliminary trans. of Zoologicheskii Zhurnal (USSR) 1958, v. 37, no. 1, p. 41-56.

DESCRIPTORS: *Fishes, *Fisheries, Population, Dynamics, Abundance, Economics, Production.

Sun, Tsi-gen.
LARVAE AND JUVENILES OF TUNAS, SAILFISHES, AND SWORDFISH (THUNIDAE, ISTIOPHORIDAE, XIPHIIDAE) FROM THE CENTRAL AND WESTERN PART OF THE PACIFIC OCEAN, tr. by Witold L. Klawe. 1960 [22]p. (refs. 7 figs. omitted)
Order from OTS or SLA $2.60 61-19745

Trans. of [Akademiya Nauk SSSR]. Institut Okeanologii. Trudy [1960] v. 41, p. 175-191.

DESCRIPTORS: *Fishes, *Pacific Ocean, Morphology, Pigments, Reproduction, Biology, Climatic factors.

During the expedition of "VITYAZ" in the central and western portions of the Pacific Ocean larvae and juveniles of tunas (Katsuwonus pelamis - 13 specimens, Neothunnus macropterus - 7 specimens, and Thunnidae gen? sp? - 1 specimen), sailfish (Istiophorus orientalis - 52 specimens), swordfish (Xiphias gladius - 20 specimens), and spearfish (Tetrapturus angustirostris - 2 specimens) were collected. The important distinguishing characteristics are the following:(1) K. pelamis - black pigmentation of the distal portion of the first dorsal fin, prominent black pigment cell in the lower portion of the beginning of the caudal peduncle, large head, protuding upper jaw with strong teeth on the anterior end, unpigmented symphysis of the pectoral girdle; (2) N. macropterus - intensive pigmentation of the first dorsal fin, lack of black pigment on the body (except in the region of the peritoneum). In fish less than 14 mm. long, the upper jaw does not protude or almost does not protude, the front teeth of the upper jaw are not enlarged; (3) I. orientalis - deep head, strong posteriorly directed upper and lower spines of the preoperculum, long pelvic fins, long and high first dorsal fin, pigmentation of the body diffuse, little spines along the lower edge of the lower jaw; and (4) X. gladius - long slender body, entirely covered with small spines (in our larvae), slender elongated head with long jaws, long continuous dorsal fin, lack of pelvic fins. (Author)

Ushatinskaya, R. S.
ACTIVITY OF CYTOCHROME OXIDASE AND SUCCINO-DEHYROGENASE IN THE COLORADO BEETLE (LEPTINOTARSA DECEMLINETA SAY.) IN THE PERIOD PRECEDING DIAPAUSE AND UPON ONSET OF DIAPAUSE. [1961] [6]p. 13 refs.
Order from OTS or SLA $1.10 62-13586

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 129, p. 687-690.

DESCRIPTORS: *Beetles, Tissues (Biology), Respiration, Enzymes, Metabolism, Cytochrome oxidase, Dehydrogenases.

In the initial stages of the Colorado beetle's feeding prior to diapause the oxidative processes involving the cytochrome system predominate in its metabolism. As prediapause feeding progresses, the activity of the cytochrome oxidase gradually diminishes, without any perceptible replacement by the succino-dehydrogenase. The appearance of negative phototropism and the entrance of the beetles into the soil (indicating the onset of diapause) are accompanied by minimum activity of the cytochrome oxidase and a slight increase in the activity of the succino-dehydrogenase. During the period of diapause the tissue metabolism of the Colorado beetle exhibits low activity of both of the enzymes investigated. The relative decrease in succino-dehydrogenase activity is much less, however, than that of cytochrome oxidase. The deep drop in the activity of cytochrome oxidase in the Colorado beetle's system of tissue respiration that is observed at the onset of diapause is accompanied by an increase in its resistance to cyanide and is the reason for the low effectiveness of insecticides acting on oxidative gas exchange.

Vorob'ev, B. A.
MOSQUITOES OF TYULENI ISLAND, tr. by R. Ericson. 8 Oct 59, 1p.
Order from OTS or SLA $1.10 62-15636

Trans. of Med[itsinskaya] Parazitol[ogiya] i Parasitar[nye] Bolezni (USSR) 1958 [v. 27] no. 1, p. 67-68.

DESCRIPTORS: *Mosquitoes, Diptera, Insects.

CHEMISTRY

JOURNAL OF APPLIED CHEMISTRY, 1943, VOL. 16, NO. 11/12: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1961] 7p. 6 refs.
Order from OTS or SLA $1.10 62-14153

Abstract trans. of Zhurnal Prikladnoi Khimii (USSR) 1943, v. 16, no. 11/12, p. 363-367, 383-393, 397-412, 426-432.

DESCRIPTORS: *Chemistry, Abstracting, *Acetones, Quantitative analysis, *Alcohols, Propanols, Electrolytes, Reduction, *Coal tar, Pyridines, Oils, Esters, *Fatty acids, Polymerization, Dehydration, *Steel, *Chromium plating, Corrosion, Sulfur compounds, *Organic compounds, Analysis, *Chemical industry, *Chemical engineering.

Contents:
Quantitative determination of acetone by the oxime method, by G. A. Pevtsov
Electrolytic reduction of acetopropyl alcohol, by B. P. Ershov and L. A. Zepalova-Mikhailova
Pyridine bases from sapropelic coal tar, by V. A. Lanin and E. A. Pozhil'tsova
Research on polymerization and drying of oils and esters of fatty acids. V. Drying of linseed oil at unusually high temperatures, by A. Ya. Drinberg and V. M. Tikhonova
Stability of carbon steel chromium plated by the gaseous process to corrosion by sulfur compounds, by V. I. Arkharov and others
Structure and insecticide properties of organic compounds. I. Esters of α-substituted acids, by N. N. Mel'nikov and others.

JOURNAL OF APPLIED CHEMISTRY, 1944, VOL. 17, NO. 4/5: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1961] 6p. 15 refs.
Order from OTS or SLA $1.10 62-14154

Abstract trans. of Zhurnal Prikladnoi Khimii (USSR) 1944, v. 17, no. 4/5, p. 213-226, 228-240, 252-258.

DESCRIPTORS: *Chemistry, Abstracting, *Nitrogen compounds, *Oxides, Water, *Naphthalenes, Synthesis, *Nicotinic acid, Preparation, Alkaloids,

*Aluminum alloys, *Magnesium alloys, *Lithium alloys, Mechanical properties, *Copper, Rock, Determination, *Chemical industry, *Chemical engineering.

Contents:
Methods of analysis of nitrous oxide in natural waters, by E. K. Gerling and others
Research on the naphthalene series. X. Synthesis of 1,3-dihydroxynaphthalene (Naphthoresorcinol) by V. V. Kozlov and Yu. P. Odintsov
Preparation of nicotinic acid (Vitamin B_2) from anabesine, by V. V. Vil'yams and I. M. Mavlyanov
Properties of alloys of aluminum with magnesium and lithium, by T. A. Badaeva and F. I. Shamrai
Determination of small amounts of copper in sedimentary rocks, by L. A. Gulyaeva and E. S. Itkina.

JOURNAL OF APPLIED CHEMISTRY, 1944, VOL. 17, NO. 6: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1961] 6p. 18 refs.
Order from OTS or SLA $1.10 62-14155

Abstract trans. of Zhurnal Prikladnoi Khimii (USSR) 1944, v. 17, no. 6, p. 289-297, 329-336, 362-369, 377-379.

DESCRIPTORS: *Chemistry, Abstracting, *Vapors, Recovery, Solutions, Solids, *Absorbents, *Benzenes, *Ethanols, Carbon, Adsorption, *Nitrogen compounds, *Oxides, Water, *Phenols, *Naphthalenes, Colorimetric analysis, *Coal, Sulfur compounds, *Adipic acids, Oxidation, *Cyclohexanones, Oxygen, Air, *Chemical industry, *Chemical engineering, Thermochemistry.

Contents:
Research on recovery of vapors of volatile solutions with solid sorbents. VI. Thermal phenomena in sorption of vapors of volatile solvents under conditions of recovery. Sorption of vapors of benzene and ethyl alcohol on carbon, by E. V. Alekseevskii and N. D. Gorchakov
Content of nitrous oxide in natural waters, by E. K. Gerling and V. G. Barkan
Colorimetric method of determination of some phenols and naphthols, by B. N. Afanas'ev
Presence of bithioether groups in Kiselov coals, by S. I. Gusev
Preparation of adipic acid by oxidation of cyclohexanone with oxygen of the air, by I. V. Machinskaya and T. K. Veselovskaya.

Ababi, V.
RUMANIA: REPORTS DELIVERED AT THE SCIENTIFIC SESSION MARKING THE 100TH ANNIVERSARY OF THE L. CUZA UNIVERSITY IN IASI, OCT 60 (Implimirea Unui Veac de Invatamint Chimic la Universitatea "Al. I. Cuza" din Iasi (1890-1960). 19 June 61 [9]p. JPRS: 9463.
Order from OTS or SLA $1.10 62-19336

Partial trans. of Revista de Chimie (Rumania) 1960, v. 11, no. 12, p. 688-690.

DESCRIPTORS: *Universities, *Rumania, *Chemistry, Education, Scientific reports.

Authors and titles are listed of papers presented at the Section of Chemical Sciences. These are arranged as follows: physical chemistry, 7 papers; inorganic chemistry 4 papers; analytical chemistry 10 papers; chemical technology 4 papers; organic chemistry 16 papers; organic chemical technology 4 papers; and biological chemistry 15 papers.

Bahadur, K. and Srivastava, R. B.
EFFECT OF CATALYSTS AND THE PERIOD OF IRRADIATION ON THE PHOTOSYNTHESIS OF AMINOACIDS IN THE MIXTURE OF PARAFORMALDEHYDE AND POTASSIUM NITRATE. 29 Nov 61, 2p. AID rept. 61-158; AD-267 923.
Order from OTS or SLA $1.10 62-15418

Abstract trans. of #Zhurnal Obshchei Khimii (USSR) 1961, v. 31, no. 9, p. 3017-3020.

DESCRIPTORS: *Photosynthesis, *Ammino acids, Mixtures, Formaldehyde, Potassium compounds, Nitrates, Chromatographic analysis, Spectrographic analysis, Venus, Atmosphere, Catalysts, Cobalt catalysts, Nickel catalysts.

The spontaneous photosynthesis at Allahabad University, Allahabad, India of some aminoacids as a result of the reaction of paraformaldehyde with potassium nitrate in the presence of a catalyst is reported. Small amounts of paraformaldehyde (0.1 g) were brought together with 30 ml of a dilute solution containing 0.2g KNO_3 and .05 g of either $CoCl_2$, $NiCl_2$, or benzoyl peroxide in 400 ml of water. The mixtures were exposed to the light of a 1000-watt bulb at a distance of 45 cm. Exposure lasted approximately 120 to 915 hours. Control flasks for each mixture were covered with a dense black cloth. Chromatographic analysis of the irradiated mixtures indicated the presence of identifiable amounts of valine, glycine, histidine, ornithine, alanine, and aspartic acid in various combinations, depending on the catalyst and the time of irradiation. Only traces of aminoacids were present in the control flasks kept in the dark. It was also found that cobalt ions produced a larger number of varied aminoacids in smaller amounts, while nickel ions produced larger amounts of fewer acids. Benzoyl peroxide produced only glycine under the conditions described. The content of aminoacids in the mixtures increased with increasing exposure to irradiation.

Analytical Chemistry

Mikhailov, M. K.
THE SHMUK METHOD FOR DETERMINATION OF POLYPHENOLS IN TOBACCO (O Metode Shmuka dlya Opredeleniya Polifenolov v Tabake). [1962] [6]p. 5 refs.
Order from OTS or SLA $1.10 62-10908

Trans. of Tabak (USSR) 1959, v. 20, no. 2, p. 41-43. Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 61-15172, CSIRO Trans-4941 [1960] [7]p.

DESCRIPTORS: *Tobacco, Chemical analysis, *Phenols, Determination, Paper chromatography.

For abstract see Technical Translations 5: 287, 1961.

Molokanov, Yu. K., Aleksandrov, I. A., and Skoblo, A. I.
VERSUCHE MIT SIEBBÖDEN IN EINER LABORKOLONNE (Experiments on Perforated Bottoms in a Laboratory Column). 9p. (text in German).
Order from T.I.B. $1.55

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1961, [v. 6] no. 3, p. 34-39.

DESCRIPTORS: *Fractionation, Distilling plants, Test equipment.

Inorganic Chemistry

Alen, J. E.
ETHYLSULFATE SALTS. [1959] 2p. MDF A-138
Order from OTS $0.50 62-11624

Trans. of [Svenska Vetenskapsakademien, Stockholm]. Ofversigt af Förhandlingar, 1880, v. 37, no. 8, p. 42 and 45.

DESCRIPTORS: Salts, *Lanthanum compounds, *Sulfates, *Ethyl radicals, Synthesis, Crystallization, Barium compounds, Chemerical reactions.

Brodskii, A. I. and Eremenko, R. K.
A STUDY OF THE REACTIONS OF POLYTHIONATES BY MEANS OF TAGGED SULFUR.
15 June 61, 12p. 37 refs.
Order from OTS or SLA $1.60 61-18574

Trans. of #Zhurnal Obshchei Khimii (USSR) 1954, v. 24, no. 7, p. 1142-1150.

DESCRIPTORS: Chemical reactions, Reaction kinetics *Thiosulfates, Synthesis, *Sulfur compounds, Labeled substances, Radioactive isotopes, *Tracer studies.

Basic reactions leading to formation of trithionate were studied with the aid of tagged sulfur. In formation of trithionate from sulfur dichloride and bisulfate, sulfoxylic acid is first formed in which the hydroxyl groups are then displaced by the sulfite groups. In preparation of trithionate from the action of sulfur dioxide or thiosulfate, sulfoxylic acid is also formed first, in which the hydroxyl groups are then displaced by thiosulfate groups with the formation of pentathionate. In later stages at the reaction exchange of sulfite groups with thiosulfate radicals, leads to formation of tetra and trithionate. In preparation of trithionate by the reaction of hydrogen peroxide and thiosulfate, the latter is first oxidized to a symmetrical product probably dithionate. Exchange of a sulfite group in this intermediate by a thiosulfate group then yields tri-thionate. (Author)

Gericke, S.
THE STUDY OF PHOSPHATES [PTS.] 4-8, tr. by Bertha P. Klenova. 1949-53 [26]p. 6 refs. [No.] 2801.
Order from OTS or SLA $2.60 60-23245

Trans. of Angew[andte] Chem[ie] (West Germany) 1948, v. 60, p. 98-99; 1949, v. 61, p. 410-411; 1951, v. 63, p. 193-194; 1952, v. 64, p. 164-165; and 1953, v. 65, p. 59-61.

DESCRIPTORS: *Phosphates, *Silicates, *Fertilizers Production, Fused materials, Electrodialysis, Chemical analysis.

Juza, Robert, Wainoff, Gisela, and Uphoff, Wilhelm.
ENTHALPY OF FORMATION OF ALUMINUM PHOSPHATE, tr. by Bertha P. Klenova. 9 Sep 59, 8p. 13 refs. [No.] 3827.
Order from OTS or SLA $1.10 60-19160

Trans. of Z[eitschrift für] Anorg[anische] Chem[ie] (East Germany) 1958, v. 296, p. 157-163.

DESCRIPTORS: *Aluminum compounds, *Phosphates, *Enthalpy, Heat of formation, Heat of solution, Colorimetry, *Thermodynamics.

The enthalpy of solution of aluminum phosphate precipitated from aqueous solution and solved in 10% hydrofluoric acid has been determined calorimetrically to be -32.5 kcal/mol; in the same solvent, the enthalpies of solution and dilution of aluminum and phosphoric acid, respectively, have been determined, too. The enthalpy of formation of aluminum phosphate according to $Al_{solid} + P_{solid} + 2\,O_{2\,gas} = AlPO_{4\,solid}$ has been calculated to be $\Delta H = -412.1$ kcal/mol. (Author)

Szabo, Zoltan.
HUNGARIAN ACHIEVEMENTS IN INORGANIC CHEMICAL RESEARCH OVER THE PAST DECADE (A Hazai Szervetlen Kemiai Kutatasok Eredmanyei az Elmult Evtizedben). 31 July 61 [8]p. JPRS: 9709.
Order from OTS or SLA $1.10 62-19591

Trans. of Magyar Tudomanyos Akademia Kemiai Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 14, no. 3, p. 355-360.

DESCRIPTORS: Scientific research, *Chemistry, *Inorganic substances, *Hungary.

Organic Chemistry

CURING HEAT CURING ORGANOPOLYSILOXANES WITH COPPER CHELATES. [1962].
Order from TTIS $10.00 TTIS NS 30

Trans. of German patent [1117869] by Th. Goldschmidt A. G., appl. 25 Jan 60, pub. 23 Nov 61.

DESCRIPTORS: *Chelate compounds, *Copper compounds, *Silicones, Aging, Heat, Polymers.

Avgul', N. N., Berezin, G. I. and others.
ENERGIE DE LIAISON D'ADSORPTION ET CHALEUR D'ADSORPTION DES ALCANES NORMALES SUR LE NOIR DE FUMÉE GRAPHITISE [Energy of Adsorption Bonds and Adsorption Heat on n-Alkanes on Graphitized Carbon Black]. 27 Oct 59 [32]p. 17 refs. CEA Trans. no. R 747 (text in French).
Order from OTS or SLA $3.60 61-23751

Trans. in French of #Akad[emiya]Nauk SSSR. [Otdelenie Khimicheskikh Nauk]. Izvest[iya] 1957, no. 9, p. 1021-1031.

DESCRIPTORS: *Carbon black, *Graphite, Chemical bonds, Energy, Heat, *Adsorption.

On a determiné dans un calorimètre à échange constant de température, les isothermes absolues d'adsorption et de chaleur différentielle d'adsorption des vapeurs du pentane, de l'heptane et de l'octane normaux sur le noir de fumée graphitisé. Ces isothermes ont été confrontées avec les isothermes correspondantes pour l'hexane normal déterminées antérieurement. On a déterminé pour ces hydrocarbures les caractéristiques thermodynamiques de l'adsorption des vapeurs et du mouillage. Les valeurs standards de la chaleur, de l'énergie totale et de l' énergie libre, ainsi que de l'entropie d'adsorption sont des fonctions linéaires du nombre des atomes de carbone n dans la molécule de ces hydrocarbures. La chaleur de mouillage est indépendante de n. On a établi une équation approchée pour le calcul de la constante de l'isotherme d' adsorption des alcanes normales étudiés sur le noir de fumée graphitisé, pour différents n et différentes températures, équation qui exprime les isothermes o observées dans les essais. (Author)

Blyumberg, E. A., Zaikov, G. E. and others.
DIFFERENCES IN THE MECHANISM OF THE OXIDATION OF ETHANOL IN THE LIQUID AND GAS PHASES. [1962] 5p.
Order from ATS $7.50 ATS-85P59R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 133, no. 1, p. 144-147.

DESCRIPTORS: *Ethanols, *Oxidation, Liquids, Gases Phase studies.

Bogdanov, M. N., Kudryavtsev, G. I. and others.
SYNTHESIS OF SOME POLYAMIDES DERIVED FROM ω-AMINOCARBOXYLIC ACIDS CONTAINING BENZENE AND CYCLOHEXANE RINGS IN THE METHYLENE CHAINS. [1962] 8p.
Order from ATS $13.25 ATS-14P59R

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 9, p. 1326-1331.

DESCRIPTORS: *Amides, Polymers, Synthesis, *Amino acids, *Carboxylic acids, *Benzenes, *Cyclohexanes, *Methanes, Chemical reactions.

Crippa, G. B. and Galimberti, P.
ON THE RESISTANCE OF THE BOND BETWEEN THE ARYL AZO GROUP AND THE NUCLEUS IN THE AMINOAZO DERIVATIVES (Sulla Resistenza del Legame fra il Gruppo Arilazoico ed il Nucleo Negli Aminoazoderivati) tr. by W. H. Everhardy. 26 Nov 58 14p. 5 refs.
Order from OTS or SLA $1.60 59-12309

Trans. of Gazz[etta] Chim[ica] Ital[iana] (Italy) 1932, v. 62, p. 937-944.

DESCRIPTORS: *Phenyl radicals, *Azo radicals, *Anilines, *Amines, *Naphthyl radicals, Benzenes, *Benzimidazoles, Azoles, Phthalic anhydride, Anhydrides, *Oxalic acids, Acids, Chemical reactions, Condensation reactions, Bonding.

Kargin, V. A., Kabanov, V. A., and Andrianova, G. P.
THE HETEROGENEOUS POLYMERIZATION OF SODIUM ACRYLATE IN THE PRESENCE OF OTHER SALTS. 2 May 61 [16]p. 5 refs. MCL-849/1+2; AD-259 584.
Order from OTS or SLA $1.60 61-27261

Unedited rough draft trans. of Vysokomolekulyarnye Soedineniya (USSR) 1959 [v. 1] no. 2, p. 301-307.

DESCRIPTORS: *Acrylic resins, *Polymers, *Polymerization, Solids, Crystals, *Sodium compounds, Lithium compounds, Magnesium compounds, Ethanol, Chlorides, Exchange reactions, Chemical reactions, Mixtures, *Metalorganic compounds, Salts.

It is shown that, in order to initiate polymerization of crystalline sodium acrylate in the system: sodium acrylate in the system: sodium acrylate-LiCl-50% C_2H_5OH and sodium acrylate-$MgCl_2$-aqueous C_2H_5OH, a heterogeneous exchange reaction between the salts must be used. Formation of a new solid crystalline phase and its contact with monomer salt crystals, plays a substantial role in the initiation process. (Author)

Kargin, V. A., Kabanov, V. A. and others.
POLYMERIZATION OF ACETONE. [1962] 3p.
Order from ATS $5.00 ATS-52N53R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 134, no. 5, p. 1098-1099.
Another trans. if available from OTS or SLA $1.10 as 61-27645, Courtaulds ML-3282, 9 Mar 61, 4p.

DESCRIPTORS: *Polymerization, *Acetones.

For abstract see Technical Translations 6: 827, 1961.

Kiselev, A. V. and Lygin, V. I.
ETUDE À L'AIDE D'UN MICROSCOPE ÉLECTRONIQUE, DE LA STRUCTURE POREUSE DE L'HYDROXYDE DE MAGNÉSIUM ET DE SES MODIFICATIONS PAR TRAITEMENTS THERMIQUES [Elektronno-Mikroskopicheskoe Issledovanie Poristoi Struktury Gidrookisi Magniya i Ee Izmenenii pri

Termicheskoi Obrabotke] [Electron-microscopic Study of Porous Structure of Magnesium Hydroxide and Its Changes Associated with Thermal Treatment] tr. by Fedorovsky. 17 June 60 [18]p. 16 refs. CEA Trans. no. R 945 (text in French).
Order from OTS or SLA $1.60 61-23734

Trans. in French of #Akad[emiya] Nauk SSSR. [Otdelenie Khimicheskikh Nauk]. Izv[estiya] 1959, no. 3, p. 412-416.

DESCRIPTORS: *Magnesium compounds, *Hydroxides, *Electron microscopy, Structures, Porosity, Heat treatment.

Par la méthode de répliques au carbone et à l'aide d'un microscope electronique on a étudié la structure poreuse d'un échantillon d'hydroxyde de magnésium homogène à larges pores, calciné a 200° et des échantillons d'oxyde de magnésium obtenu par calcination à 1000 et à 1400. Le squelette de l'hydroxyde de magnésium possède une structure corpusculaire constituée par des cristallites en plaques. Après calcination à 1000°, les plaques des particules du squelette de l'hydroxyde sont encore conservees. La calcination a 1400° provoque une agglutination considérable du squelette. On a évalué, d'après les données microscopiques, la surface spécifique et les dimensions des pores de l'échantillon initial et de l'échantillon calciné à 1000°; les résultats obtenus s'accordent bien avec les données obtenues auparavant par la méthode d'adsorption. (Author)

Petrov, K. A., Smirnov, V. V., and Emel'yanov, V. I.
THE ALKYLATION AND ARYLATION OF WHITE PHOSPHORUS. 17 Nov 61 [7]p. 11 refs.
Order from OTS or SLA $1.10 62-10683

Trans. of #Zhur[nal] Obshchei Khim[ii] (USSR) 1961, v. 31, p. 3027-3030.

DESCRIPTORS: *White phosphorus, Phosphorus, Alkylation, Toluenes, Chlorides, Benzenes, Bromides, Chemical reactions, Phosphines, Alkyl radicals, Aryl radicals, Halogens, Synthesis.

Experiments are reported on the direct alkylation and arylation of white phosphorus without catalysts and activating additives. When benzyl chloride is heated with white phosphorus for 4 hours at 300°, benzyldichlorophosphine can be isolated from the reaction mixture. The alkylation and arylation reactions apparently proceed by a radical mechanism. The free radicals formed attack the molecule of white phosphorus, which is a tetrahedron, with phosphorus atoms at the points and joined to each other. Phosphorus is very stable towards thermal action and begins to decompose into two P_2 molecules only at 800°. In the initial stage of alkylation and arylation, there is a rupture of the P-P bond under the action of radicals and a formation of tetraphosphorus alkyl or aryl halide, which, under the influence of repeated attacks by radical particles, accompanied by the cleavage of new P-P bonds, is converted to halophosphonities. For reactions of $C_6H_5\dot{C}H_2 < C_6H_5\dot{C}HCH_3 < (C_6H_5)_2\dot{C}H < (C_6H_5)_3\dot{C}$ the temperature at which the reaction takes place decreases on going from halo derivatives, forming less stable radicals to halo derivatives giving more stable radicals; for benzyl chloride, the minimum reaction temperature will be 300°, for 1-chlorophenylethane 270°, for diphenylchloromethane 250°, and for triphenylchloromethane 225°

Sokolova, E. B., Shebanova, M. P., and Shchepinov, S. A.
LITHIUM-ORGANIC SYNTHESIS AND STUDY OF THE PROPERTIES OF SOME α-ALKYLNAPHTHALENES C_{18}-C_{20}. 29 Nov 61, 2p. AID rept. 61-159; AD-267 924.
Order from OTS or SLA $1.10 62-13760

Abstract trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Khimiya i Khimicheskaya Tekhnologiya (USSR) 1961, v. 4, no. 4, p. 617-620.

DESCRIPTORS: Alkyl radicals, Hydrocarbons, *Naphthalenes, Synthesis, Hydrogenation, Chemical analysis, Physical properties, Chemical properties, *Jet engine fuels, Additives, Fuels.

Individual C_{18}-C_{20} hydrocarbons synthesized included 2, 4-dimethyl-4-(1'-naphthyl)-hexane; 2, 6-dimethyl-4-(1'-naphthyl)-heptane; 3-methyl-3-(1'-naphthyl)-octane; and 3-methyl-3-(1'-naphthyl)-nonane. The octane derivative was hydrogenated to the corresponding decalin. The yields of naphthyllithium were three times higher at 15°C than at 35°C, and consequently the first stage of the lithium-organic synthesis was conducted at 15°C. Not all of the naphthyllithium reacted with the alkyl halide, present 1.5-2 times in excess; in fact, a considerable amount of naphthyllithium reverted to naphthalene. This seems to be the reason for the rather low yields of up to 13.7%. Previous observations were confirmed concerning the lowering effect on the freezing point which the length and branching of the side chain exert and concerning the lower freezing point of the decalin derivative as compared with the corresponding substituted naphthalene.

Physical Chemistry

Bagotskaya, F. A.
THE RATE OF FALL OF MERCURY DROPS IN A VISCOUS MEDIUM (Ckost' Padeniya Kapel' Rtuti v Vyazkou Srede) tr. by G. Fulford. Aug 60, 5p. 11 refs. [DSIR NLL] M 4288.
Order from OTS or SLA $1.10 62-13135

Unedited trans. of Zhurnal Fizicheskoi Khimii (USSR) 1950, v. 24, p. 3-9.

DESCRIPTORS: *Mercury, *Drops, Electrodes, Motion, Hydrodynamics, Ionization potential, Inhibition, Electrolytes, Bromine, Potassium compounds, Glycerols, Ions, Electrical conductance, Mercury electrodes.

Measurements were carried out on the rate of laminar fall of "single" mercury drops in solutions of KBr in glycerine as a function of the charge density of the double layer and the electrical conductivity of the solution. The data obtained confirmed quantitatively the

correctness of the expression for the rate of fall of liquid metallic drops given by A. N. Frumkin and V. G. Levich. It was shown that in the presence of mercury ions in the solution, the inhibition of the tangential motion is reduced to a considerable extent. (Author)

Bergman, A. G.
EXTERNAL ELEMENTS OF THE FUSION DIAGRAM OF THE QUATERNARY RECIPROCAL SYSTEM (NH_4, K) (Cl_2, NO_3, H_2PO_4). [1961] [44]p. 35 refs. [DSIR NLL] M. 4340.
Order from OTS or SLA $4.60 62-13111

Trans. of [Akademiya Nauk SSSR]. Sekt[or] Fiz[iko] Khim[icheskogo] Anal[iza]. Izvestiya, 1947, v. 15, p. 157-199.

DESCRIPTORS: *Potassium compounds, *Ammonium radicals, *Nitrates, *Chlorides, *Phosphates, Phase studies, Heat of fusion, Eutectics, Phase transitions, Transformations.

Bonhoeffer, K. F.
RECENT FINDINGS IN THE FIELD OF ELECTROCHEMISTRY, tr. by Bertha P. Klenova. 22 Apr 55, 18p. 29 refs. [No. 3430].
Order from OTS or SLA mi $1.60 60-23430

Trans. of Angew[andte] Chem[ie] (West Germany) 1955, v. 67, p. 1-8.

DESCRIPTORS: *Electrochemistry, Electroosmosis, Membranes, Ion exchange, Electrolytes, Electrodes, Electrolysis.

Fedyakin, N. N.
SURFACE TENSION OF LIQUIDS IN MICRO-CAPILLARIES (Poverkhnostnoe Natyazhenie Zhidkosti v Mikro-Kapillyarakh) tr. by V. Topchy. 1961, 9p. 13 refs. NRCC Technical Trans. 998.
Order from NRCC $0.50 NRCC C-3882

Trans. of Tekhnol[ogicheskii] Inst[itut] Pishchevoi Prom[yshlennosti]. Trudy (USSR) 1957, no. 8, p. 37-41.

DESCRIPTORS: *Capillary tubes, Liquids, *Surface tension, Water, Partial differential equations.

Franck, U. F.
STABILITY OF ELECTRODE STATES. [1962] 29p.
Order from ATS $33.40 ATS-99P59G

Trans. of Z[eitschrift fŭr] Physik[alische] Chem[ie] Frankfurt (West Germany) 1955 [Neue Folge] v. 3, no. 3/4, p. 183-221.

DESCRIPTORS: *Electrodes, Stability.

Gubelin, E.
SYNTHETIC DIAMOND, PT. 2: CONSTRUCTION OF THE AUTO-CLAVE; FORMATION OF DIAMOND. [1962] 6p.
Order from ATS $9.30 ATS-58N56G

Trans. of Gold u[nd] Silber (West Germany) 1961, v. 14, Jan, p. 20-22.

DESCRIPTORS: *Diamonds, *Synthetic gems, *Sterilizers, Construction.

Gubelin, E.
SYNTHETIC DIAMOND, PT. 3. [1962] 6p.
Order from ATS $8.50 ATS-59N56G

Trans. of Gold u[nd] Silber (West Germany) 1961, v. 14, Feb, p. 21-23.

DESCRIPTORS: *Synthetic gems, *Diamonds.

(See also ATS-58N56G)

Gubelin, E.
SYNTHETIC DIAMOND, PT. 4. [1962] 7p.
Order from ATS $14.10 ATS-60N56G

Trans. of Gold u[nd] Silber (West Germany) 1961, v. 14, Mar, p. 28-31

DESCRIPTORS: *Synthetic gems, *Diamonds.

(See also 59N56G)

Huckel, E., Krafft, G. and others.
INFLUENCE OF FINITE ION DIMENSIONS ON THE THERMODYNAMIC BEHAVIOR OF ELECTROLYTE SOLUTIONS [AND DISCUSSIONS] tr. by Bertha P. Klenova. 16 Apr 57 [65]p. 93 refs. [No.] 3425.
Order from OTS or SLA $6.60 60-19162

Trans. of Z[eitschrift fŭr] Physik[alische] Chem[ie] Frankfurt (West Germany) 1955, v. 3, p. 135-182; 1957, v. 5, p. 305-322; 1957, v. 10. p. 156-160.

DESCRIPTORS: *Ions, *Electrolytes *Thermodynamics, Statistical functions, Electrochemistry, Solutions.

Kiselev, A. V.
NEW ADSORPTION METHODS OF DETERMINATION OF ADSORBENT SURFACES. [1961] 10p. 86 refs.
Order from OTS or SLA $1.10 62-10829

[Condensed] trans. of Uspekhi Khimii (USSR) 1945, v. 14, no. 5, p. 367-394.

DESCRIPTORS: *Surfaces, *Adsorbents, Catalysis, Surface areas, *Adsorption.

Klabunovskii, E. I.
SEPARATION OF RACEMATES BY ADSORPTION, tr. by I. Gawronska. Nov 60 [28]p. 87 refs. Courtaulds Misc. Lit, 3037; [DSIR LLU] M. 2951.
Order from OTS or SLA $2.60 61-23379

Trans. of Uspekhi Khim[ii] 1958, v. 27 [no. 8] p. 949-965.

DESCRIPTORS: *Racemization, Separation, *Adsorption, Adsorbents, Amino acids, Acids, Amines, Optics, Organic solvents, Crystallization.

The adsorption separation of racemates on synthetic and natural dissymmetrical adsorbents of organic and inorganic origin is discussed. The method of racemate separation, based on the formation of inclusion compounds, is also considered. The separation in this case is attained by combining asymmetric adsorption with selective spontaneous crystallization. (Author)

Kolbel, H., Klamann, D., and Boldt, M.
STUDIES ON THE CATIONIC POLYMERIZATION OF PROPYLENE. [1962] 12p.
Order from ATS $16.75 ATS-49N58G

Trans. of Brennstoff-Chem[ie] (West Germany) 1961, v. 42, no. 9, p. 273-277.

DESCRIPTORS: *Propenes, Polymerization, Electrochemistry.

Korchagin, L. V. and Urizko, M. I.
EXCHANGE REACTION BETWEEN HYDROGEN AND DEUTERIUM IN HETEROGENEOUS SYSTEMS, tr. by P. V. DePorte. 11 Aug 61, 5p. 10 refs. NIH no. 8-7-61.
Order from OTS or SLA $1.10 61-27795

Trans. of Zhurnal Fiz[icheskoi] Khimii (USSR) 1940, v. 14, no. 12, p. 1566-1568.

DESCRIPTORS: *Hydrogen, *Deuterium, *Exchange reactions, Kinetic reactions.

A study was made of the replacement of hydrogen by deuterium in heterogeneous systems consisting of a liquid and a solid phase: D_2O-alizarin, D_2O-dimethylglyoxime. In the first case, the exchange coefficient was found to be equal to unity, with the two exchangeable hydrogen atoms; in the second case, the exchange coefficient was found to be close to unity with 8 exchangeable hydrogen atoms, which indicates the probable existence of a tautomeric regrouping in dimethylglyoxime. A study was made of the replacement of hydrogen by deuterium in heterogenic systems consisting of two liquid phases: D_2O-orthotoluidine, D_2O-orthoanisidine. In both cases, the exchange coefficient was found equal to unity. (Author)

Kuznetsov, N. M.
THE STRUCTURE OF A SHOCK WAVE IN AIR TAKING ACCOUNT OF THE KINETICS OF CHEMICAL REACTIONS (Struktura Udarnoi Volny v Vozdukhe s Uchetom Kinetiki Khimicheskikh Reaktsii) tr. by Joy B. Gazley. Jan 62 [20]p. 3 refs. Rand memo. RM-2931-PR; AD-270 126.
Order from OTS or SLA $1.60 62-15516

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960, v. 3, no. 9, p. 17-24.
Unedited rough draft trans. available from OTS or SLA $1.60 as 61-28242, MCL-1118, 7 Aug 61 [13]p.

DESCRIPTORS: *Shock waves, *Reaction kinetics, *Chemical reactions, Recombination reactions, Gas flow, Aerodynamics, Superaerodynamics, Thermodynamics, Low temperature research, Gas ionization, Dissociation, Air, Oxygen, Nitrogen, Nitrogen compounds, Oxides.

For abstract see Technical Translations 6: 833, 1961.

Meliss, K., Loschner, F., and Fischer, R.
PROCESS FOR THE REMOVAL OF NONAROMATICS FROM THE EXTRACT OBTAINED BY SELECTIVE EXTRACTION OF HYDROCARBON MIXTURES WITH SO_2. [1962] 5p.
Order from ATS $6.75 ATS-39P59G

Trans. of German printed patent application 1,116,850 filed 18 June 60, pub. 9 Nov 61.

DESCRIPTORS: *Sulfur compounds, *Dioxides, Hydrocarbons, Mixtures, Processing, *Solvent extraction

Mel'nikov, B. G.
CONCENTRATION EQUATION OF MULTISTAGE COUNTERCURRENT INTERPHASE TRANSFER. [1961] 9p.
Order from ATS $9.95 ATS-17N57R

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1961, v. 6, no. 7, p. 16-21.

DESCRIPTORS: Equations, *Mass transfer.

Noller, Heinrich and Hässler, Agathe.
DIFFUSION EFFECTS IN CATALYSIS WITH ION EXCHANGERS, tr. by Bertha P. Klenova. 13 June 57, 5p. 3 refs. [No.] 3633.
Order from OTS or SLA $1.10 60-19164

Trans. of Z[eitschrift für] Physik[alische] Chem[ie] Frankfurt (West Germany) 1957 [Neue Folge] v. 11, p. 267-272.

DESCRIPTORS: *Ion exchange, *Catalysis, Catalysts, *Diffusion.

The decomposition in aqueous solution of diazoacetic esters in glycolic acid esters and nitrogen was studied in a Warburg apparatus with a cation exchanger (polystyrol sulfonic acid with a degree of cross-linking equal to 2% and grain sizes of 0.5 to 0.75 mm). The coverage with H^+ ions was varied from complete saturation to 1% of complete saturation in six different samples. Na was used for the additional saturation.

Okamoto, G. and Sato, N.
EFFECT OF HYDROGEN ION CONCENTRATION ON THE FLADE POTENTIAL OF NICKEL. [1962] 9p.
Order from ATS $15.60 ATS-40P59J

Trans. of Nihon Kinzoku Gakkai-Shi (Japan) 1959, v. 23, no. 11, p. 662-666.

DESCRIPTORS: *Hydrogen ion concentration, *Nickel, *Electric potential.

Paleolog, E. N., Fedotova, A. Z., and Tomashov, N. D.
KINETICS OF ELECTRODE PROCESSES AND SELF-DISSOLUTION MECHANISM OF n AND p-TYPE GERMANIUM WITH DIFFERENT SPECIFIC RESISTIVITY. [1961] 6p. 7 refs. MDF P-167.
Order from OTS $0.50 62-11522

Trans. of A[kademiya] N[aud] SSSR. Doklady, 1961, v. 137, no. 4, p. 900-903.

DESCRIPTORS: *Germanium, Electrodes, Diffusion, Resistance.

Experiments were conducted in the solutions: H_2SO_4 (pH 1.0); H_2SO_4 (pH 1.0) + 0.2 N H_2O_2; and 0.5 N Na_2SO_4 + 0.05 N $K_3Fe(CN)_6$. The rate of the cathodic process for n-type germanium is practically independent of its specific resistivity. The degree of retardation of the cathodic reactions of hydrogen evolution and H_2O_2 reduction for hole type germanium is larger the higher the specific resistivity of the p-germanium, i.e., the less the concentration of the majority carriers therein. Results obtained confirm the hypothesis on the participation of primarily majority current carriers in the given cathodic processes, i.e., the participation of the free electrons for n-germanium and the electrons from the valence band for the p-germanium. The rate of anodic dissolution of p-germanium was independent of its specific resistivity in all the solutions.

Parezanovic, N. and Petric, J.
A SOLUTION OF THE SYSTEM OF NONLINEAR ALGEBRAIC BALANCE EQUATIONS OF GAS-MIXTURE BY "UNIVAC-60" DIGITAL COMPUTING MACHINE. 18 Dec 61 [13]p. JPRS: 11546.
Order from OTS or SLA $1.60 62-19698

Trans. of Vasiona (Yugoslavia) 1960, no. 4, p. 120-125.

DESCRIPTORS: *Digital computers, Computers, *Scheduling, *Gases, *Chemical equilibrium, Algebra Equations, Solutions.

The possibility is shown of solving the problem of equilibrium in a gaseous mixture using digital computers with small capacities of memories. The working equations are given in a convenient form which allows a substantial saving of program steps independently from the type of digital computer used for the solution of this problem. After finding all the components of the composition of the gaseous mixture one can consider as solved the bulk of the numerical calculation required for the practical application of this problem. Further numerical work does not present any difficulty. (Author)

Püschel, Anneliese and Eckhard, Siegfried.
ORGANIC SOLVENTS IN FLAME SPECTROMETRY. [1962] [10]p. 9 refs.
Order from SLA $1.10 62-14199

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1959, v. 30, no. 12, p. 731-735 (Max Planck Institut fur Eisenforschung (West Germany). [Communication]-835; Verein Deutscher Eisenhüttenleute. (West Germany). Berichte-285). Another trans. is available from BISI as BISI-1636 [1960].

DESCRIPTORS: *Flames, Spectrographic analysis, *Organic solvents, Drops, Atomization.

For contents see Technical Translations 3: 569, 1960.

Schindewolf, U. and Bonhoeffer, K.-F.
DETERMINATION OF IONIC ACTIVITY BY USE OF ION EXCHANGE MEMBRANES WITH AN APPLICATION TO THE DEGREE OF DISSOCIATION OF POLYPHOSPHATES. [1962] 10p.
Order from ATS $16.25 ATS-71P58G

Trans. of Z[eitschrift für] Elektrochem[ie] (West Germany) 1953, v. 57, no. 3, p. 216-221. Trans. in French is available from SLA mi$2.70, ph$4.80 as CEA-tr-A520, 4 Feb 59 [25]p.

DESCRIPTORS: *Ion exchange, *Solutions, Ionization, Membranes, Phosphates, Polymers, *Dissociation.

For abstract see Technical Translations 2: 704, 1959.

Schlögl, R.
THEORY OF ANOMALOUS OSMOSIS, tr. by Bertha P. Klenova. 10 June 55 [27]p. 30 refs. [No.] 3444.
Order from OTS or SLA $2.60 60-23438

Trans. of Z[eitschrift für] Physik[alische] Chem[ie, Frankfurt] (West Germany) 1955, N[eue] F[olge] v. 3, p. 73-102.

DESCRIPTORS: *Electroosmosis, Theory, Membranes, Electrolytes, Diffusion, Hydrostatic pressure, Electric fields, *Electrochemistry.

With the aid of a simple model of a porous charged membrane the phenomenon of "anomalous osmosis" in the diffusion of electrolytes is explained by the action of a hydrostatic pressure gradient and an electric field in the interior of the membrane. Both the anomalous positive and negative osmosis and a diffusion of the electrolytes may occur opposite to the electrochemical potential gradient. There is a stationary solution of the motion equations, in which (after attainment of a suitable concentration, pressure, and potential distribution) anomalous osmosis may occur in a single pore even without electric current. This is contradictory to several earlier theories which postulated the necessity of a closed circuit within a pore or within adjacent pores. (Author)

Schwab, G. M. and Kolb, E.
VISCOSITY OF SULFURIC ACID, tr. by Bertha P. Klenova. 11 Mar 55, 13p. 11 refs. [No.] 3413.
Order from OTS or SLA $1.60 60-23424

Trans. of Z[eitschrift für] Phys[ikalische] Chem[ie, Frankfurt] (West Germany) 1955, N[eue] F[olge] v. 3, p. 52-64.

DESCRIPTORS: *Sulfuric acid, Viscosity, Temperature, Electrolytes.

Viscosity measurements of sulfuric acid have been made with an Ostwald viscosimeter in the concentration range 80 to 115% H_2SO_4 and in the temperature range 20° to 132° C. The values reported are accurate to ± 0.5 per cent. Dilute solutions of sodium hydrogen sulfate and acetic acid anhydride in sulfuric acid have also been investigated. An equation has been proposed for expressing the temperature-dependence of viscosity of each mixture, and so has the concentration dependence of the temperature increment and of the factor that is a function of temperature. (Author)

Vasserberg, V. E., Balandin, A. A., Maksimova, M. P.
ORIENTATION DANS LA COUCHE MONOMOLÉCULAIRE, DES MOLÉCULES ADSORBÉES SUR LES CATALYSEURS OXYDÉS [Ob Orientatsii Adsorbirovannykh Molekul v Monomolekulyarnom Sloe na Okisnykh Katalizatorakh] [Orientation of Adsorbed Molecules in the Monomolecular Layer on Oxidizing Catalysts] tr. by B. de Trezvinsky. 13 Dec 60 [9]p. 10 refs. CEA Trans. no. R 1107 (text in French)
Order from OTS or SLA $1.10 61-19599

Trans. in French of #Akad[emiya] Nauk SSSR. [Otdelenie Khimicheskikh Nauk]. Izvest[iya] 1959, no. 2, p. 363-364.

DESCRIPTORS: Alcohols, *Adsorption, Surfaces, *Molecules, *Catalysts.
The adsorption of the lowest saturated alcohols, from C_1 to C_4, of n-pentane and dichloro ethane by differently produced Al_2O_3 samples and MgO-, ThO_2- and ZnO-catalysts was investigated. Determinations of the adsorption isothermal lines at 25° showed that the adsorption in the monomolecular layer decreases in the following order: $CH_3OH > C_2H_5OH > n\text{-}C_3H_7OH > n\text{-}C_4H_9OH > i\text{-}C_3H_7OH = i\text{-}C_4H_9OH > s\text{-}C_4H_9OH > t\text{-}C_4H_9OH$. The size of the elementary places occupied by the adsorbed alcohol molecules on the surface depends both on the structure of the alcohol and on the catalyst. It was assumed that at moderate temperature there is also a plane orientation in addition to the normal one of the adsorbed molecules (hydroxyl groups are oriented towards the surface). The portion of planely oriented molecules is different for various alcohols and catalysts. For this reason it is advisable to introduce instead of the actual size of the elementary place a new term, the "effective specific place" σ_{eff}. It depends on the numerical ratio of the planely and parallelly absorbed molecules and is different for one and the same alcohol on various catalysts.

Wolff, Robert.
THE PHYSICAL CHEMISTRY OF ASSOCIATION AND AGGREGATION PHENOMENA, tr. by Bertha P. Klenova. 11 May 55 [47]p. 102 refs. [No.] 3436.
Order from OTS or SLA $4.60 60-23434

Trans. of Angew[andte] Chem[ie] (West Germany) 1955, v. 67, p. 89-107.

DESCRIPTORS: *Physical chemistry, *Molecular association, Molecular weight, Chemical bonds, Heat of formation, Thermodynamics, *Stereochemistry.
The stoichiometric combination of similar and dissimilar molecules to form associates or aggregates had been reported earlier with the aid of the law of mass action. The required equations have been generalized in this study and extended to include gaseous associate-builders and made applicable, for the purpose of comparison, to reversible primary-valence reactions.
Graphic approximation methods have been replaced or substantiated by exact mathematical methods. The methods for the determination of the association energy have been improved. Thermodynamic relationships now can be added to those of reaction mechanisms, energy, and morphology. The most important data relative to the equilibria of the associates investigated to date are tabulated and compared with primary-valence equilibria (Author)

EARTH SCIENCES

MEETING TO RECAPITULATE FOUR YEARS OF GEOPHYSICAL WORK. 9 Jan 62 [5]p. JPRS: 11843.
Order from OTS or SLA $1.10 62-19607

Trans. of Tin Tuc Hoat Dong Khao Hoc [sic] (North Vietnam) 1961, no. 11, p. 54-55.

DESCRIPTORS: *Geophysics, Conferences, Atmosphere, Pressure, Earthquakes, Terrestrial magnetism, Crystallization, Astronomy, Satellite vehicles, Tracking, *Vietnam.

Kedo, G. I.
SPORES FROM PERSALT DEVONIAN DEPOSITS IN THE PRIPET (PRIPYAT') DEPRESSION AND THEIR STRATIGRAPHICAL SIGNIFICANCE (Spory iz Nadsolevykh Devonskikh Otozhenii Pripyatskogo Progiba i Ikh Stratigraficheskoe Znachenie). Dec 61 [70]p. 40 refs. RTS 1949.
Order from OTS or SLA $6.60 62-13737

Trans. of Paleontologiya i Stratigrafiya BSSR, 1957, v. 2, p. 3-43.

DESCRIPTORS: *Spores, Deposits, *Paleoecology, *Geology, Rock, Plants, Clays, Sedimentation, Minerals, Calcites, Geological time, *Stratification.

Muehleisen, R.
AN EASILY TRANSPORTABLE POTENTIAL SONDE FOR FIELD MEASUREMENT OF ATMOSPHERIC ELECTRICITY [AND] LESSENING OF INSULATION PROBLEMS IN MAKING MEASUREMENTS OF ATMOSPHERIC ELECTRICAL POTENTIAL. [1958] [23]p. [12 figs. omitted) 13 refs. F-TS-9481
Order from OTS or SLA $2.60 59-12147

Trans. of Be[i]träge zur Physik der Atmosphäre (West Germany) 1956 [v. 29] [no. 4] p. 90-96, 97-99.

DESCRIPTORS: *Atmospheric electricity, Electricity, Measurement, Collecting methods, *Electric potential *Radiosondes, Electrostatics, Voltmeters, Instrumentation, Radioactivity, *Insulating materials.

Sulakvelidze, G. K. and Lancheva, V. F.
ON THE PEAKS OF EL'BRUS. 12 Mar 62 [19]p. JPRS: 12915.
Order from OTS or SLA $1.60 62-23387

Trans. of Priroda (USSR) 1961 [v. 50] no. 11, p. 72-78

DESCRIPTORS: *Mountains, *Geophysics, Exploration, Meteorology, Climate, Radio waves, Propagation, Snow, Avalanches, Clouds, Growth, Cosmic rays.

Tarkov, A. P.
EMPLOYING THE RESULTS OF A GRAVIMETRIC SURVEY TO EXPLAIN THE STRUCTURE OF THE FOUNDATION OF THE SOUTH MINUSINSK BASIN, tr. by J. M. Willis. Apr 61 [7]p. ACIC TC-248.
Order from OTS or SLA $1.10 62-13081

Trans. of Razvedochnaya i Promyslovaya Geofizika (USSR) 1959, v. 31, p. 3-8.

DESCRIPTORS: *Geology, Geological survey, Rock, Deposits, *Gravity, Gravity anomalies, Geophysics.

Climatology and Meteorology

Aujeszky, Laszlo.
GEOGRAPHIC ASPECTS OF MODERN WEATHER FORECASTING. 23 May 61 [5]p. JPRS: 4639.
Order from OTS or SLA $1.10 62-19424

Trans. of Foldrajzi Kozlemenyek (Hungary) 1960, v. 8, no. 4, p. 372-374.

DESCRIPTORS: Meteorology, *Weather forecasting, *Geography, Climate.

Bukhman, N. V.
A DEVICE FOR THE MEASUREMENT AND AUTOMATIC RECORDING OF THE RADIATION BALANCE. 3 Oct 61 [3]p. MCL-1306/1+2; AD-265 712
Order from OTS or SLA $1.10 61-28993

Unedited rough draft trans. from #Byulleten' Izobretenii (USSR) 1960, no. 7.

DESCRIPTORS: Earth, Surfaces, *Thermal radiation, Measurement, *Recording devices, Automatic, Radio transmitters, Atmosphere, Heat transfer, Measurement, Heating elements.

This device for measuring and automatically recording the radiation balance, containing a two-way transmitter and an instrument for recording the electric signals which are proportional to the duration of the radiation value, has the distinguishing feature that, in order to determine only the longwave radiation of the earth's surface and the atmosphere, its transmitter is encased in a glass shell and has two electric heating elements to compensate for the difference in temperatures of the upper and lower halves of the transmitter. (Author)

Buleev, N. I. and Marchuk, G. I.
THE DYNAMICS OF LARGE-SCALE ATMOSPHERIC PROCESSES (O Dinamike Krupnomasshtabnykh Atmosferrnykh Protsessov). 3 Aug 60, 78p. 9 refs. JPRS: 5199.
Order from OTS $2.00 60-41092

Trans. of [Akademiya Nauk SSSR. Institut Fiziki Atmosfery. Trudy, 1958] no. 2 [p. 66-104]. Another trans. is available from LC or SLA mi$4.50, ph$12.30 as 61-13568, NLL M.1521 [1960] 79p.

DESCRIPTORS: *Atmosphere, Pressure, *Weather forecasting, Temperature, Mathematical analysis, Meteorological data.

For abstract see Technical Translations 5:352-353, 1961.

Patrichi, Fl.
THE RUMANIAN AUTOMATIC METEOROLOGICAL STATION. 9 Jan 62 [8]p. JPRS: 11862.
Order from OTS or SLA $1.10 62-19665

Trans. of Stiinta si Tehnica (Rumania) 1961 [v. 13] no. 9, p. 16-17.

DESCRIPTORS: *Rumania, *Meteorology, Weather forecasting, *Weather stations, Automatic, Remote control systems, *Automation.

Pivovarova, Z. I.
THE CHIEF CHARACTERISTICS OF THE RADIATION REGIME OF THE EUROPEAN TERRITORY OF THE USSR (Osnovnye Kharakteristiki Radiatsionnogo Rezhima Evropeiskoi Territorii SSSR) tr. by Irene A. Donehoo. Oct 61 [21]p. 9 refs.
Order from OTS or SLA $2.60 62-13286

Trans. of Glavnaya Geofizicheskaya Observatoriya, Leningrad. Trudy (USSR) 1960, no. 115(177), p. 77-94.

DESCRIPTORS: USSR, Europe, *Thermal radiation, Sun, *Solar energy, Measurement, Diurnal variations, Albedo, Periodic variations, Meteorology.

The principal characteristics of the radiation regime in the European Territory of the USSR are investigated according to the data of actinometric stations taken du during the IGY. Average monthly intensity values and monthly totals of the constituents of the radiation balance and their variations with time (daily and annual) throughout the territory are presented. (Author)

Shibayama, Takeshi.
FORECASTING THE MOVEMENTS OF TYPHOONS BY THE 500-1000 m b THICKNESS CHART, tr. by E. R. Hope. Jan 62, 8p. 7 refs. DSIS T 71 J.
Order from NRCC NRCC C-3918

Trans. of Journal of Meteorological Research (Japan) 1960, v. 12, no. 8, p. 509-517.

DESCRIPTORS: *Weather forecasting, *Tropical cyclones, Motion, *Meteorological charts, Hurricanes.

Shimakawa, Koshizo.
OBSERVATION OF ATMOSPHERICS ASSOCIATED WITH THUNDERSTORMS AND ITS APPLICATION TO WEATHER FORECASTING tr. by Noburu Hiraga. [1959] 20p. 7 refs.
Order from OTS or SLA $1.60 SCL-T-250

Trans. of Journal of Meteorological Research (Japan) 1957, v. 9, p. 436-440.

DESCRIPTORS: *Atmospherics, *Storms, *Weather forecasting, Meteorology, Recording devices, Meteorological instruments.

Sychev, K. A.
THE DRIFTING ICE ISLAND OF STATION NORTH POLE-6 (Plavuchii Ledyanoi Ostrov Stantsii 'Severnyi Polyus-6') tr. by Valys Zilius. Mar 60 [6]p. AmMetSoc T-R-263+; AD 246 342.
Order from OTS or SLA $1.10 61-13974

Trans. of Problemy Arktiki (USSR) 1958, no. 5, p. 121-124.

DESCRIPTORS: *Ice islands, *Weather stations, Drift, Ice, Snow, Arctic regions.

Geodesy

GEODESY AND CARTOGRAPHY IN POLAND. 24 July 61 [120]p. 4 refs. JPRS: 9744.
Order from OTS or SLA $9.60 62-19587

Trans. of Przeglad Geodezyjny (Poland) 1961, v. 33, no. 3, p. 82-95, 97-100, 102-112, 116-120.

DESCRIPTORS: *Geodesics, *Mapping, *Aerial photography, Photography, Instrumentation, Digital computers, Analog computers, Computers, Programming, Personnel, Conferences, *Poland.

Contents:
Technical progress in geodesy and cartography, by Jozef Pawlowski
The role of the Society of Polish Geodesists in the development of technical progress in geodesy and cartography, by Waclaw Klopocinski
Photogrammetry in the national economy, by Ludwik Winiewicz
Photogrammetric efforts in Poland, by Waclaw Sztompke
Modernization and use of geodetic instruments, by Kerzy Szymonski
Modernization of geodetic calculations, by Tadeusz Bychawski
Remarks and modernization of geodetic calculations, by Tadeusz Kluss
Technical progress in drawing large-scale maps, by Felicjan Piatkowski
Results of the Scientific Technical Conference of the Society of Polish Geodesists (no. 21) by Adam Szczerba
Conclusions of the Scientific-Technical Conference of the Society of Polish Geodesists (no. 21).

GEODETIC AND PHOTOGRAMMETRIC PROJECTS IN YUGOSLAVIA. 1 May 61 [56]p. (3 photos. omitted) 1 ref. JPRS: 9155.
Order from OTS or SLA $5.60 62-19345

Trans. of Tehnika (Yugoslavia) [1960] v. 15, no. 3, p. 483-486.

DESCRIPTORS: *Geodesics, *Aerial photography, Photography, *Mapping, *Yugoslavia.

Contents:
Basic geodetic operations, by Milutin Stefanovic
The geodetic survey of the FPRI and survey of Belgrade, by Iliya Zivkovic
Review of photogrammetric projects in Yugoslavia from 1955-59, by Bosco Popeskov and Lazar Zokic.

Hanko, G.
THE USE OF PHOTOGRAMMETRY IN MAPPING AT SCALES OF 1/10,000 AND GREATER IN HUNGARY (A Fotogrammetria Alkalmazasa az 1:10 000 es Nagyobb Meretaranyu Terpepezeseknel a Hazai Viszonylatok Kozott). 19 June 61 [45]p. 20 refs. JPRS: 9372.
Order from OTS or SLA $4.60 62-19243

Trans. of Magyar Tudomanyos Akademia Muszaki Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 27, no. 3/4, p. 393-427.

DESCRIPTORS: *Aerial photography, Photography, *Mapping, Costs, Geodesics, *Hungary.

Khristov, Vl. K.
DEVELOPMENT OF GEODESY IN THE BULGARIAN ACADEMY OF SCIENCES (Razvitie na Geodeziyata v Bulgarskata Akademiya na Naukite). 23 Feb 61 [7]p. 19 refs. JPRS: 7794.
Order from OTS or SLA $1.10 62-19406

Trans. of [Bulgarska Akademiya na Naukite]. Tsentralna Laboratoriya po Geodeziya. Izvestiya, 1959, v. 2, p. 1-6.

DESCRIPTORS: *Geodesics, Universities, Bulgaria.

Geography

PLACE NAMES IN ISRAEL. [Apr 62] 402p. PL-480 Int.
Order from OTS $4.00 60-21088

DESCRIPTORS: Rural areas, Urban areas, *Israel, *Geography.

Contents:
Settlements in the State of Israel for the year 5714 (1953-54)
List of names of settlements assigned from April 1951-June 1954
List of names of settlements assigned during the year 5713 (1952-53)

List of names of settlements assigned from June 1952-August 1953
List of names of settlements assigned in the months of Tishri and Adar 5715 (1955)
List of names of settlements assigned from April 1951-July 1956
Names of settlements, local councils, geographical features, places of antiquity, and river systems, February 1953
Names of geographical features and ancient sites assigned from September 1953-September 1954
List of geographical names on the southern sheet of the map of Israel, 1950-1951
Geographical names based on historical names (the southern sheet of the map of Israel, 1950
List of geographical names along the new highway to Elat, September 1953
Names on maps of the Negev, 1953-1954
List of names in the Karmel Mountains, September 1955
List of springs in Galilee, October 1953
Names and places in the Gilboa-Bet She'an districts, August 1953
Mountains and springs in Galilee (Zfat district), October 1953
List of geographical sites in Upper Galilee and in the Hula Valley (Part A), September 1954
List of geographical sites in Upper Galilee and in the Hula Valley (Part B), September 1954
Hydrographical index of the map of Israel.

Kondracki, J. and Kremki-Saloni, J.
GEOGRAPHICAL SOCIETY ACTIVITIES. 30 Nov 61 [9]p. JPRS: 11246.
Order from OTS or SLA $1.10 62-19483

Trans. of Czasopismo Geograficzne (Poland) 1961, v. 32, no. 1, p. 103-107.

DESCRIPTORS: *Geography, Personnel, *Poland.

Geology

GEOLOGIC ACTIVITY OF MICROORGANISMS; THE ROLE OF BACTERIA IN GAS AND OIL PROSPECTING. 1962, approx. 100p.
Order from CB $17.50

Trans. of an unidentified Russian mono., n. p., n. d.

DESCRIPTORS: *Geology, *Microorganisms, *Bacteria, Natural gas, Oils, *Geophysical prospecting.

STATUTE ON THE STATE GEOLOGICAL COMMISSION OF EAST GERMANY (ISSUED 25 Jan 61). 18 May 61 [7]p. JPRS: 4628.
Order from OTS or SLA $1.10 62-23497

Trans. of Gezetzblatt der Deutschen Demokratischer Republik (East Germany) 1961 [pt.] III, no. 4, p. 43-45.

DESCRIPTORS: *Geology, *Geophysics, Control, Scientific personnel, East Germany.

Andrusov, Dimitrij.
BIOGRAPHIC DATA ON VSEVOLD CECHOVIC, CORRESPONDING MEMBER OF THE SLOVAK ACADEMY OF SCIENCES. 2 Aug 61 [5]p. JPRS: 4828.
Order from OTS or SLA $1.10 62-19529

Trans. of Slovenska Akademia Vied. Vestnik (Czechoslovakia) 1960, v. 2, no. 1, p. 51-53.

DESCRIPTORS: *Scientific personnel, Personnel, Geology, Minerals, Czechoslovakia.

Belyaevskii, N. A.
STUDY OF DEEP INTERIOR OF THE EARTH AND PROBLEMS OF SUPER DEEP DRILLING. 20 Apr 62. [58]p. 18 refs. JPRS: 13516.
Order from OTS or SLA $5.60 62-24024

Trans. of Sovetskaya Geologiya (USSR) 1961, no. 12, p. 55-77.

DESCRIPTORS: Earth, *Well drilling, Mining engineering, Oils, Natural gas, Minerals, Deposits, Geological survey, Geophysics.

Jacob, H.
ON RELATIONSHIPS BETWEEN COAL AND PETROLEUM. [1962] [25]p. 22 refs.
Order from SLA $2.60 62-14563

Trans. of Erdöl und Kohle (West Germany) 1960, v. 13, no. 1, p. 5-11.

DESCRIPTORS: *Coal, *Petroleum, Fuels, Paleoecology, Geology.

For both coal and petroleum, vegetable and animal substances represent the starting material. However, the two fuels were formed under different conditions of facies and also the starting substances exhibit certain differentations. As a consequence different substances may have originated during the biochemical phase. Liquid migrated petroleum constitutes only a very small proportion of the organic substance of the parent rocks of the petroleum. This substance consists, as in the case of coal mainly of highly condensed compounds. In contrast to the bituminous coal, petroleum-bitumen is normally liquid, but also contains dissolved solids. This reduces the physical difference. If the H/C- and O/C-quotients are calculated for coals, petroleums (and asphalt) and for the most important vegetable and animal substance groups and are plotted in the diagram, one obtains characteristic distributions: carbonification band, bituminization area and smaller areas for the vegetable and animal substance groups. Lignin has predominantly a tendency to humification, whereas albumin under suitable facies conditions probably furnishes petroleum or asphalt. Bituminization (formation of petroleum- and coal-bitumen) is promoted by alkaline reaction of the substrate. (Author)

Krishtofovich, A. N.
THE PLANT EVOLUTION ACCORDING TO DATA OF PALEOBOTANY: [SELECTED PARTS]. 26 Apr 61, 8p. (1 fig. omitted).
Order from OTS or SLA $1.10 61-19924

Trans. of Russian language mono. Selected Works on Paleobotany, v. 1: Theoretical Works, n.p., n.d., p. 266-269 and 311-312.

DESCRIPTORS: *Plants, Paleoecology, Geology.

Piotrovskii, G. L.
ALUNITE FROM THE BEREGOV DISTRICT IN THE TRANSCARPATHIAN REGION (Ob Alunite iz Beregovskogo Raiona v Zarkarpat'e) tr. by Ivan Mittin. 1961 [19]p. 23 refs.
Order from OTS or SLA $1.60 62-13082

Trans. of Mineralogicheskii Sbornik (USSR) 1947, v. 1, p. 44-53.

DESCRIPTORS: *Rock, Mountains, *Geology, *Alums, Potassium compounds, Aluminum compounds, Sulfates, Crystals, Crystal structure, Chemical analysis, Thermodynamics, Pyrolysis, Decomposition.

Rzhonsnitskaya, M. A.
ON TAXONOMY AND PHYLOGENY OF PENTAMERACEA. [1961] 22p. (3 drawings 2 plates omitted) 17 refs.
Order from OTS or SLA $2.60 62-15511

Trans. of an article from an unidentified Russian source, n.p., n.d.

DESCRIPTORS: *Plants, Animals, Classification, Genetics, *Paleoecology.

Study on a vast and interesting fossil material of Devonian Pentameracea of this region and analyses of their Silurian representatives preserved in museums and described in literature, allow us to make certain observations concerning the terminology used for the elements of the internal structure of Pentameracea, to suggest a classification differing somewhat from that accepted currently (6, 2) and to develop a tentative scheme of the phylogenetic evolution of this superfamily. (Author)

Strakhov, N. M.
DIE ARTEN VON SEDIMENTÄREN PROZESSEN UND DIE BILDUNG SEDIMENTÄRER GESTEINE (The Types of Sedimentation and the Formation of Sedimentary Rocks), 43p. (text in German).
Order from T.I.B. $2.71

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geologicheskaya, 1956, [v. 21] no. 5, p. 3-21.

DESCRIPTORS: *Sedimentation, *Rock, Glaciers, Deltas.

Tkalich, S. M.
PRACTICAL HANDBOOK IN THE BIOGEOCHEMICAL METHOD OF MINERAL PROSPECTING. [1961] 71p. (14 figs. omitted) 44 refs.
Order from OTS or SLA $7.60 61-27015

Trans. of unidentified Russian language mono. (pamphlet) n.p., n.d.

DESCRIPTORS: *Geophysical prospecting, *Minerals, *Geochemistry, Handbooks, Metals, Rock, Soils, Plants, Ores, Chemical analysis.

As the basis of the biogeochemical method of prospecting lies the determined direct connection between the increased contents of metals in the rocks, soils and plants growing on them. The scheme of the biogeochemical mineral prospecting is very simple. On a prospecting net, determined in advance, one gathers samples of leaves or other parts of the plants belonging to a certain species and which are of approximately same age. In the ashes of these plants the contents of characteristic ore forming and ore accompanying elements are determined. The results are plotted on the chart as iso-concentrates (lines of equal contents of metals in the plant ashes), or by other methods, Sections with increased (anormal) contents of metals are subjected to geological study and are checked by special prospecting tests. (Extract)

Oceanography

SOVIET OCEANOGRAPHIC RESEARCH IN THE MEDITERRANEAN SEA, INDIAN AND ATLANTIC OCEANS. 19 Feb 62 [28]p. (14 figs. omitted) 5 refs. JPRS: 12551.
Order from OTS or SLA $2.60 62-19789

Trans. of Okeanologiya (USSR) 1961, v. 1, no. 4, p. 745-761.
##Another trans. of p. 756-757 is available from NRCC as NRCC C-3874, DSIS T-362-R, Dec 61, 5p.

DESCRIPTORS: *Oceanographic vessels, *Oceanography, Oceanographical data, *Mediterranean Sea, *Indian Ocean, *Atlantic Ocean, Submarines, Underwater objects, Visibility, Barents Sea.

Contents:
Investigations in the Indian Ocean on the 33rd cruise of the expeditionary vessel "Vityaz", by P. L. Bezrukov
Third Mediterranean cruise of the E/V "Academician S. Vavilov, by V. M. Kovylin
##First cruise of the research exploratory expedition of the Polar Institute of Marine Fisheries and Oceanography into the northwest part of the Atlantic (summer 1960) in search for herring, by I. G. Yudanov
Visual underwater observations in the course of the fifth cruise of the submarine "Severyanka" by O. A. Sokolov.

Filippov, D. M., Mikhailov, S. T., and Krivosheya, V. G.
USE OF AVIATION PARACHUTES FOR DEEP SEA CURRENT MEASUREMENTS. [1961] [3]p. [DSIR NLL] M. 4620.
Order from OTS or SLA $1.10 62-15694

Trans. of Meteorologiya i Gidrologiya (USSR) 1961, no. 5, p. 42-43.

DESCRIPTORS: *Ocean currents, Measurement, *Parachutes, Naval equipment.

PROTECTIVE STRUCTURES AND COMPONENTS: SOVIET LITERATURE. Quarterly rept. no. 3 for 15 May - 15 Oct 61 on AID Work Assignment no. 13. 28 Nov 61 [33]p. 17 refs. AID rept. 61-155; AD-269 793.
Order from OTS or SLA $3.60 62-15420

DESCRIPTORS: *Scientific reports, Protective coverings, *Shelters, *Railroads, Construction, Geophysics, Mining engineering, Industrial plants, Propellants, Handling, Liquefied gases, Oxygen.

Contents:
Railroad systems
Road transportation
Construction activities associated with missile sites
Excavating and grading activity
Construction equipment
Guidance operations facilities
Propellant-handling equipment
Liquid-oxygen plants.

Alabuzhev, P. M., Ryashentsev, N. P., and Timoshenko, E. M.
UNTERSUCHUNG SCHLAGEND MIT ELEKTROMAGNETEN ARBEITENDER HÄMMER (Tests on Solenoid Hammers). 8p. (text in German).
Order from T.I.B. $1.55

Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniĭ. Gornyĭ Zhurnal (USSR) 1959, no. 2, p. 89-97.

DESCRIPTORS: Mining engineering, Solenoids, *Hammers.

Azimov, A. A., Naĭda, V. A., and Reva, A. S.
DIE MECHANISIERUNG DER ARBEITEN BEI DER GEWINNUNG FEUERFESTER TONE IM TIEFBAU (Mechanization of the Underground Winning of Refractory Clays). 7p. (text in German).
Order from T.I.B. $1.55

Trans. of Mekhanizatsiva i Avtomatizatsiva Proizvodstva (USSR) 1960, [v. 14] no. 7, p. 22-25.

DESCRIPTORS: *Mining engineering, *Clays, Refractory materials.

Babenko, S. F. and Dyadyura, A. F.
VENTILLOSE BOHRHÄMMER (Valveless Hammer Drills). 5p. (text in German).
Order from T.I.B. $1.55

Trans. of Gornyĭ Zhurnal (USSR) 1959, no. 5, p. 24-26.

DESCRIPTORS: Mining engineering, *Drilling machines.

Borisenko, K. S. and Smadnichenko, N. V.
DIE WIRTSCHAFTLICHKEIT BEI DER HERSTELLUNG VON BOHRLÖCHERN UNTER ANWENDUNG VON HOHEM LUFTDRUCK (Increased drilling Capacity by applying high Compressed Air). 12p. (text in German).
Order from T.I.B. $1.85

Trans. of Shakhtnoe Stroitel'stvo (USSR) 1959, no. 10, p. 22-26.

DESCRIPTORS: Mining engineering, *Drills, *Compressed air.

Brichkin, A. V., Zhakupov, G. E. and others.
HANDTHERMOBOHRER MIT EINEM EINDÜSENBRENNER (Thermal Hand Drill with a Single-nozzle Burner). 3p. (text in German).
Order from T.I.B. $1.40

Trans. of Mekhanizatsiya i Avtomatizatsiya Proizvodstva (USSR) 1957, v. 11, no. 1, p. 15-16.

DESCRIPTORS: Mining engineering, Drilling machines, *Nozzles.

Chub, V. F. and Koval, G. L.
ERPROBUNG DER BOHREINRICHTUNG PBS-8 (Tests on the Drilling Machine PBS-8). 3p. (text in German).
Order from T.I.B. $1.40

Trans. of Ugol' Ukrainy (USSR) 1960, [v. 4] no. 3, p. 44-45.

DESCRIPTORS: Mining engineering, *Drilling machines.

Koskov, I. G.
BOHRKRONE MIT VORSTEHENDER MITTELSCHNEIDE ZUM BOHREN VON LÖCHERN GRÖSSEREN DURCHMESSERS (Drill Cutter Head with Projecting Middle-edge for Boring of Holes with Increased Diameter). 2p. (text in German).
Order from T.I.B. $1.40

Trans. of Gornyĭ Zhurnal (USSR) 1959, no. 8, p. 73.

DESCRIPTORS: Mining engineering, *Drills, *Diameter.

Marian, I. D.
UNTERSUCHUNG DES ARBEITSWERKZEUGES VON LADEMASCHINEN MIT GREIFARMEN (Examination of the Accessories of Loaders). 7p. (text in German).
Order from T.I.B. $1.55

Trans. of Nauchnye Doklady Vysshei Shkoly. Gornoe Delo (USSR) 1959, no. 1, p. 203-208.

DESCRIPTORS: Mining engineering, *Loaders.

Mel'nikov, N. V., Simkin, B. A., and Pakhomov, E. M.
POSSIBILITIES FOR OPEN PIT MINING OF THE RICH ORES AND FERROQUARTZITES OF THE KURSK MAGNETIC ANOMALY (O Vozmozhnostyakh Otkrytoi Dobychi Bogatykh Rud i Zhelezistykh Kvartsitov na KMA). 23 May 61 [8]p. JPRS: 9317.
Order from OTS or SLA $1.10 62-23477

Trans. of Gornyi Zhurnal (USSR) 1961, no. 1, p. 22-25.

DESCRIPTORS: *Ores, *Iron, *Quartz, *Mining engineering, Magnetic fields, Magnetism.

Naydenova, Radka and Kolev, Petur.
THE RODOPSKI MINING BASIN. 2 Dec 58, 7p. (4 illus. omitted). JPRS(NY)-L-485.
Order from OTS or SLA $1.10 59-11143

Trans. of Geografiya (Bulgaria) 1958, v. 8, no. 1, p. 6-9.

DESCRIPTORS: Mines, *Mining engineering, *Ores, Minerals, *Geology, Mountains, Dams, Bulgaria, Metallurgy, *Electric power production.

Nechesov, B. G.
ANWENDUNG PNEUMATISCHER GESCHWINDIGKEITS-RELAIS BEI DER AUTOMATISIERUNG VON STETIG-FÖRDERERN FÜR UNTERTAGEBETRIEB (Application of Pneumatic Velocity Relays at the Automation of Underground Continuous Conveyors). 5p. (text in German).
Order from T.I.B. $1.40

Trans. of Ugol' (USSR) 1960, v. 35, no. 12, p. 8-9.

DESCRIPTORS: Mining engineering, *Conveyors, *Pneumatic systems, *Relays, Control systems.

Pavlyutkin, A. P.
ÜBER DIE ABHÄNGIGKEIT DER BOHRLEISTUNG VON DER HÖHE DES LUFTDRUCKS (Dependence of the Drilling-performance on the Altitude of Compressed Air). 10p. (text in German).
Order from T.I.B. $1.55

Trans. of Shakhtnoe Stroitel'stvo (USSR) 1958, no. 9, p. 14-17.

DESCRIPTORS: Mining engineering, *Drills, *Compressed air.

Ryashentsev, N. P.
DIE DYNAMIK DES MAGNETISCH ARBEITENDEN ABBAUHAMMERS MS-3 (Dynamics of Solenoid Bulking Hammers of the Type MS-3). 4p. (text in German).
Order from T.I.B. $1.40

Trans. of Izvestiya Vysshikh Uchebnych Zavedenií. Gornyí Zhurnal (USSR) 1959, no. 1, p. 195-198.

DESCRIPTORS: Mining engineering, *Hammers, Solenoids.

Solov'yanov, L. N.
NEUE ROHR- UND LADEGERÄTE FÜR UNTERTAGE-ARBEITEN (New Underground Boring Plants and Loading Facilities). 6p. (text in German).
Order from T.I.B. $1.55

Trans. of Mekhanizatsiya i Avtomatizatsiya Proizvodstva (USSR) 1960, v. 14, no. 9, p. 32-34.

DESCRIPTORS: Mining engineering, *Drilling machines *Loader.

Soroko, V. V. and Press, I. M.
ERPROBUNG EINER LADEMASCHINE MIT RÜTTLER AN DER WURFSCHAUFEL (Testing of a Vibrating Overhead Loader). 4p. (text in German).
Order from T.I.B. $1.40

Trans. of Gornyí Zhurnal (USSR) 1959, no. 8, p. 41-43.

DESCRIPTORS: Mining engineering, *Loaders, *Vibrators.

Sosunov, G. I.
ZUR THEORIE DES SCHLAGENDEN BOHRENS (On the Theory of Churn-drilling). 11p. (text in German).
Order from T.I.B. $1.85

Trans. of Nauchnye Doklady Vysshel Shkoly, Gornoe Delo (USSR) 1959, no. 1, p. 51-59.

DESCRIPTORS: Mining engineering, *Drills.

Stadnichenko, N. V. and Nazarov, V. T.
UBER DIE ZWECKMÄSSIGE GRÖSSE VON BOHRLOCH-DURCHMESSERN (On the Suitable Diameter of the Bore Hole). 12p. (text in German).
Order from T.I.B. $1.85

Trans. of Ugol' (USSR) 1959, v. 34, no. 10, p. 20-22.

DESCRIPTORS: Mining engineering, *Drills.

Aeronautical Engineering

THE KLEMM KL-107-B, A GERMAN SINGLE-MOTORED TOURING PLANE; ALFONS PUTZER'S "ELSTER", A GERMAN SINGLE-ENGINED TOURING PLANE; THE PZL-102 "KOS", A POLISH SINGLE-ENGINED TOURING PLANE (Klemm KL-107 B, Monomoteur de Tourisme (Allemagne); Alfons Putzer "Elster", Monomoteur de Tourisme (Allemagne); PZL-102 "Kos", Monomoteur de Tourisme (Pologne)) tr. by W. E. C. [1959] [6]p. (6 figs. omitted). H-3104 A.
Order from OTS or SLA $1.10 59-21028

Trans. of 3 articles from Aviation Magazine (France) 1958, 15 Aug.

DESCRIPTORS: *Transport planes, Airplanes, Design, Germany, Poland, Airplane engines.

THE MIGNET HM-350 A FRENCH SINGLE-ENGINE TOURING PLANE (Mignet HM-350 Monomoteur de Tourisme (France)) tr. by A. D. S. [1959] [2]p. H-3156/A.
Order from OTS or SLA $1.10 59-21023

Trans. from Aviation Magazine (France) 1958, Oct, p. 32.

DESCRIPTORS: *Transport planes, Airplanes, France, Design, Airplane engines, Commercial planes.

THE SCHEIBE SF-23 "SPERLING" (SPARROW) A GERMAN SINGLE-MOTORED TOURING PLANE [AND] THE SNECMA C-450 "COLEOPTER" (BEETLE) AN EXPERIMENTAL FRENCH SINGLE-JET PLANE (Scheibe SF-23 "Sperling", Monomoteur de Tourisme (Allemagne) [and] Snecma C-450 "Coleoptere", Monoreacteur Experimental (Frence)) tr. by W. E. C. [1959] [4]p. (4 figs. omitted). H-3104 B.
Order from OTS or SLA $1.10 59-21029

Trans. of 2 articles from Aviation Magazine (France) 1958, 1 July.

DESCRIPTORS: *Transport planes, Airplanes, Germany, *Jet planes, France, Design, Airplane engines, Commercial planes.

Cot, P. D. and Becker, E.
DESIGN OF PRESTRESSED CONCRETE RUNWAYS. [1962] [35]p.
Order from SLA $3.60 62-14225

Trans. of Revue Générale des Routes et des Aérodromes (France) 1956, v. 26, no. 292, p. 53-72.

DESCRIPTORS: *Runways, Design, Construction, Airports, *Concrete, Materials.

Dobrolenskii, Yu. P.
ATMOSPHERIC TURBULENCE AS A SOURCE OF DISTURBANCES FOR AUTOMATIC CONTROL SYSTEMS OF AIRCRAFT. 18 Jan 62 [22]p. 6 refs. FTD-TT-61-368; AD-270 750.
Order from OTS or SLA $2.60 62-15812

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 5, p. 174-184.

DESCRIPTORS: Automatic, *Control systems, Automatic pilots, Aircraft, Intensity, Velocity, Atmosphere, Turbulence, *Aerodynamics, Moments, Oscillation, Vector analysis, Rotation, Instrumentation, Integration, Statistical functions, Gyroscopes.

Methods are examined for an analytic description of atmospheric turbulence in a form permitting the use of the obtained data for analysis of the dynamics of an aircraft-autopilot system. Results of treating the data of the experimental investigation of turbulence by means of a new instrument are cited. It is shown that the results of the experimental investigation agree sufficiently well with the analytical expressions in the work (the author is evidently referring to the work of H. Press, et al., which was published in 1956 by NACA as NACA Report No. 1272 and is available from OTS as PB 125752) which describe the velocity field of air in a turbulent atmosphere. (Author)

Gambu, Jacques.
TRIUMPH OF THE TURBINE; SUD-AVIATION PRODUCES TWO NEW REMARKABLE HELICOPTERS (Triumphe de la Turbine; Sud-Aviation Produit deux Nouveaux Helicopters Remarquables) tr. by Layton. [1959] 8p. (3 photos omitted). H-4316.
Order from OTS or SLA $1.10 59-21156

Trans. from Aviation Magazine (France) 1959, May, p. 20-21 and 24-25.

DESCRIPTORS: *Helicopters, Production, Aircraft industry, *Gas turbines, Helicopter blades, Helicopter rotors.

Gonor, A. L. and Chernyi, G. G.
ON MINIMUM DRAG BODIES AT HYPERSONIC SPEEDS. [1961] 6p. 3 refs. MDF G-141.
Order from OTS or SLA $1.10 62-15856

Trans. of A[kademiya] N[auk] SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya, 1957, no. 7, p. 89-93.

DESCRIPTORS: *Bodies of revolution, *Hypersonics, *Drag, Gas flow, Density, Shock waves, Partial differential equations.

Gonzaga, Franco.
THE ITALIAN TOURING PLANE "FALCO F. 8L" (L'Avion de Tourisme Italien Falco F. 8L) tr. by A. D. S. [1959] [6]p. (3 illus. omitted). H-2688.
Order from OTS or SLA $1.10 59-11906

Trans. of L'Air (France) 1958 [v. 39, no. 735] p. 24-25.

DESCRIPTORS: *Transport planes, Airplanes, Design, Italy, *Commercial planes.

Richter, E.
STAINLESS STEEL BOLTS FOR AIRCRAFT. [1962] [12]p.
Order from SLA $1.60 62-14181

Trans. of Luftfahrttechnik (West Germany) 1959, v. 5, no. 2, p. 58-60.
Another trans. is available from BISI £ 3 as BISI-1525 [1960].

DESCRIPTORS: *Bolts, Nuts (Mechanics), Materials, *Stainless steel, Aircraft, Construction.

For abstract see Technical Translations 3: 423, 1960.

Chemical Engineering

NEWS OF SCIENCE IN KAZAKH SSR. 24 May 61 [31]p. JPRS: 9292.
Order from OTS or SLA $3.60 62-23478

Trans. of Akademiya Nauk Kazakhskoi SSR, Alma-Ata. Vestnik, 1960, v. 16, no. 8(185), p. 3-19 and 108-109.

DESCRIPTORS: *Geophysical prospecting, *Natural gas, *Mathematics, *Catalysts, Chemical engineering.

Contents:
The problem of prospecting for natural gas in the region between the Ural and Volga Rivers, by T. N. Dzhumagaliev

The problems of the development of mathematical sciences in Kazakhstan, by O. A. Zhautykov and M. V. Pentkovskii

Activities of the laboratory of organic catalysts, by N. V. Davydov: review of Akademiya Nauk Kazakhskoi SSR, Alma Ata. Institut Khimicheskikh Nauk. Trudy, 1958, v. 2 (reprinted from Chemische Technik (East Germany) 1960 [v. 12] no. 3).

Charvat, V.
THE GRINDING OF COAL FOR THE PRODUCTION OF COKE. II. DISINTEGRATING AND IMPACT HAMMER TYPE MILLS. [1962] [17]p. 5 refs.
Order from SLA $1.60 62-14186

Trans. of Paliva (Czechoslovakia) 1956, v. 36, no. 6, p. 185-192.
Another trans. is available from BISI £ 6 15s as BISI-1581 [1960].

DESCRIPTORS: *Coke, Production, *Coal, Processing

For abstract see Technical Translations 3: 688, 1960.

Gurdjian, Vahan.
PROGRESS IN THE FIELD OF DIRECT OXIDATION OF ETHYLENE. [1962] 8p. 26 refs.
Order from CTS (Chem) $10.00 CTS(Chem)-256
subsequent copies $1.80/ea.

Trans. of [la] Chimica e [l']Industria (Italy) 1961, v. 43, no. 6, p. 641-643.

DESCRIPTORS: *Ethylenes, *Oxidation, Ethylene derivatives, *Acetaldehydes, Catalysts.

Kagan, D. Ya. and Kaganet, T. A.
HYDRAZENE TREATMENT OF FEEDWATER FOR TP-240-1 ULTRA-HIGH-PRESSURE BOILERS. [1961] [10]p. [DSIR LLU] M. 3106.
Order from OTS or SLA $1.10 61-27538

Trans. of Teploenergetika (USSR) 1960, v. 7, no. 11, p. 46-48.

DESCRIPTORS: *Feed water, *Hydrazines, Chemical effects, Boilers, Pressure.

Hydrazene treatment of the water caused complete removal of residual oxygen in the water, reaching the economiser, and raised the pH of the feedwater, condensate and steam to the appearance of ammonia. This latter has a favourable influence on the reduction of carryover of copper and iron oxides from the system. In ultra-high-pressure boilers, hydrazene is completely decomposed with the formation of ammonia, nitrogen and possibly hydrogen. The plant operates with complete reliability and no difficulties have been encountered in operating the equipment.

Karelin, Ya. Z., Nazarov, I. I. and others.
AN EXPERIMENTAL STUDY OF TWO-STAGE BIOCHEMICAL TREATMENT OF WASTE WATERS FROM THE ORSK PETROLEUM REFINERY ELECTRIC DESALTING UNIT. [1962] 6p.
Order from ATS $8.25 ATS-92P58R

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1961, v. 6, no. 11, p. 23-27.

DESCRIPTORS: Petroleum, Refineries, *Water, *Chemical waste, Electrical equipment, *Biochemistry, Desalination.

Koryakov-Savoiskii, B. A., Barishpolets, V. T. and others.
A CENTRIFUGAL FROTH SEPARATOR. [1961] [3]p.
Warren Spring Lab. Trans. NT829; DSIR LLU M. 3022.
Order from OTS or SLA $1.10 61-27577

Trans. of USSR patent 117167, cl. 1c, 6, appl. 4 May 58 as no. 598939/22.

DESCRIPTORS: Centrifuges, *Centrifuge separation, *Foams, Separation, Wood pulp, Processing, Design.

A centrifugal froth separator is described for separating the froth from an aerated pulp. The distinguishing feature is that, in order to intensify the froth separation and improve the grade of the froth product, the separator is designed in the form of two identically-shaped inverted cones, one inside the other, with cylindrical pieces fixed to the apexes, and an upright latticed cone mounted on the upper end of the inner cylinder and fitted with a tangential pulp feed aperture. The level of the pulp and the froth layer is controlled by a paddle and an annular trough, with a weir compartment, which communicates with the annular space between the cylinders.

Löfblad, B. and Lindh, G.
A COMPARISON BETWEEN LOW-CARBON AUSTENITIC STAINLESS STEELS AND STABILIZED STEELS FOR WELDED APPARATUS IN THE CHEMICAL INDUSTRY. [1959] [19]p. 16 refs.
Order from SLA $1.60 62-10509

Trans. from International Institute of Welding. Annual Assembly, Vienna, 1958, 30 June. [Proceedings].
Another trans. is available from BISI £ 5 15s as BISI-1408 [1959].

DESCRIPTORS: *Stainless steel, Chemical industry, Heat treatment, Metallurgical analysis, *Welding, Steel, Corrosion.

For abstract see Technical Translations 2: 647, 1959.

Luchin, B. G.
A NEW BAROMETRIC-CONDENSER DESIGN. [1961] [4]p. C. E. Trans. 1974; [DSIR NLL] M. 4259.
Order from OTS or SLA $1.10 62-13122

Trans. of Maslob[oino]-Zhir[ovaya] Prom[shlennost'] (USSR) 1953, v. 18, no. 7, p. 30-31.

DESCRIPTORS: *Barometers, *Capacitors, Design.

The new design of barometric condenser has the following advantages: (1) large contact surface between condensing vapour and cooling water, thus ensuring total condensation of vapour and excluding the possibility of "escape"; and (2) the possibility of dismantling the condenser easily for periodic inspection and cleaning without disconnecting the pipelines. (Author)

Nikolaev, A. V., Frolova, E. V., and Shternina, E. B.
STORING OIL AND OTHER LIQUIDS IN CHEMICALLY TREATED GROUND. [1961] 4p. 3 refs.
Order from OTS or SLA $1.10 61-20145

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1945, v. 18, p. 686-689.

DESCRIPTORS: *Liquids, *Oils, *Storage, Sand, Iron compounds, Hydroxides, Permeability, Tests.

The impermeability to oil products, alcohol and water of a film of ferric hydroxide on a layer of sand was tested and it was found that neither of these liquids passed through this film during a period of from 6 to 11 months. The passing of oil products through a dough-like moist mass of milk of lime was also investi gated. (Author)

Okunev, A. I.
COMPARISON OF EFFICIENCY OF DIFFERENT REDUCING AGENTS IN THE FUMING PROCESS OF SLAGS (Sopostavlenie Effektivnosti Razlichnykh Vosstanovitelei pri F'yumingovanii Shlakov). Dec 61 [11]p. 7 refs. RTS 1784.
Order from OTS or SLA $1.60 62-13726

Trans. of Uralsk[ii] Nauchno-Issled[ovatel'skii i] Proekty[nyi] Inst[itut] Medn[oi] Prom[yshlennosti]. Trudy i Mater[ialy] (USSR) 1957, v. 2, p. 322-328.

DESCRIPTORS: *Slags, Reduction, Carbon compounds, Monoxides, Hydrogen, Methanes, Industrial plants.

By comparing the efficiency of different reducing agents in the fuming of slags it was found that in the case when a methane-air mixture is blown through slags the efficiency of the plant remains approximately the same as in the case when carbon dust is used as the reducing agent. The consumption of the reducing agent (i.e., carbon, hydrogen and methane) for 1 gram-atom of zinc distilled off is respectively 7.2, 8.78 and 3.4 moles (with $a_{ZnO} = 0.1$). In the case when the blast is preheated and oxygen used in the fuming of the slags the efficiency of methane as a reducing agent increased more than by blowing through with carbon dust or hydrogen. (Author)

Timofeev, D. P. and Kobanova, O. N.
KINETICS OF WATER VAPOR SORPTION FROM A CARRIER GAS STREAM ONTO ZEOLITES OF TYPE A. [1962] 4p.
Order from ATS $7.85 ATS-35P59R

Trans. of #Akad[emiya] Nauk SSSR. Otdel[enie] Khim[icheskikh] Nauk. Izvest[iya] 1961, no. 9, p. 1539-1542.

DESCRIPTORS: *Water vapor, *Organolites, *Water softeners, Gas flow, Absorption, Adsorption, Reaction kinetics.

Civil Engineering

Davydov, M. M.
IRRIGATION AND WATER SUPPLY OF ARID REGIONS IN WESTERN SIBERIA AND IN THE TURGAI DEPRESSION, tr. by Marcel I. Weinreich. 23 June 60 [5]p.
Order from OTS or SLA $1.10 SCL-T-315

Trans. of mono. Perspektivy Kompleksnogo Ispol'zovzniya Stoka Sibirskikh Rek (Prospects for an overall Utilization of Siberian Water Run-off) Moscow, 1957, p. 18-21.

DESCRIPTORS: *Water supplies, *Irrigation systems, Drainage, Inland waterways, *Dams, Construction, *Siberia

Giraud, Maurice.
ROADS IN FRENCH WEST AFRICA (La Route en A. O. F.) tr. by Walters. [1959] 18p. (7 photos omitted). H-0162 A.
Order from OTS or SLA $1.60 59-14266

Trans. of Industries et Travaux d'Outremer (France) 1957 [v. 5] Oct [p. 711-720].

DESCRIPTORS: *Roads, *French West Africa, Economics, Transportation, Trafficability, Maintenance, *Construction, Traffic.

Morozov, V. M.
NEUE RÜTTELMASCHINE FÜR DIE BODENVERDICHTUNG (A New Soil Tamper for Soil Consolidation) 3p. (text in German).
Order from T.I.B. $1.40

Trans. of [Stroitel'nye i Dorozhnye Mashiny] (USSR) 1959 [v. 4] no. 10, p. 18-19.

DESCRIPTORS: *Soil tampers.

Muller, R. A.
ZUR BERECHNUNG DER VERFORMUNG DER ERDOBERFLÄCHE DURCH DEN ABBAU (Calculation of Surface Deformations Caused by Mine Workings). 16p. (text in German).
Order from T.I.B. $1.85

Trans. of Shakhtnoe Stroitel'stvo (USSR) 1959, no. 7, p. 11-16.

DESCRIPTORS: Road building equipment, Vibration mechanisms, *Soil tampers, Construction, Vehicles.

NEWS OF HUNGARIAN TELECOMMUNICATIONS ASSOCIATION. 12 Jan 61 [4]p. JPRS: 4325.
Order from OTS or SLA $1.10 62-19380

Trans. of Magyar Hiradastechnika (Hungary) 1960, v. 11, no. 5, p. 165.

DESCRIPTORS: *Scientific organizations, *Hungary, Communication systems, Engineering personnel, Personnel, Television communication systems.

SOME RUMANIAN IMPRESSIONS OF THE IFAC CONGRESS. 31 May 61 [28]p. JPRS: 8356.
Order from OTS or SLA $2.60 62-19462

Trans. of Automatica si Electronica (Rumania) 1960, v. 4, no. 6, p. 255-259, 262-269, 281.

DESCRIPTORS: *Electrical engineering, Radio, *Electronic equipment, *Automation, Machine translation, Pneumatic systems, Telemetering, Computers, Radioactive isotopes, Industrial research.

Contents:
A visit to the V. I. Ulianov Electrotechnological Institutè in Leningrad, by M. Hanganut
Telemechanics and centralized control, by Mario Duma
Electronic computers, by V. Toma
Electronic translation machines, by C. Popovici
Pneumatic systems and inspection and measuring devices, by A. Brinzei
Application of radioisotopes in automation, by T. Tanasescu.

Butusov, Ivan Vasil'evich.
AUTOMATIC CONTROL-MEASURING AND REGULATING INSTRUMENTS. PT 2: CHAPS. 11-18. 21 Mar 62 [344]p. 110 refs. JPRS: 13082.
Order from OTS or SLA $19.75 62-23648

Trans. of mono. Avtomaticheskie Kontrol'noizmerital'nye i Reguliruyushchie Pribory, Leningrad, 1961, p. 292-495.

DESCRIPTORS: Solids, Liquids, Powders, Gases, *Moisture, *Hydrogen ion concentration, Automatic, Measurement, *Wiring diagrams, *Instrumentation, *Control systems, *Electronic equipment, Pressure regulators, Thermostats, Pulse systems, Pneumatic devices, Liquid level control, Electric relays, Differentiating circuits, Potentiometers, Hydraulic actuators, Servomechanisms, Automation.
Contents:
Instruments for the measurement of moisture of solid, powdered, liquid, and gaseous bodies
Instruments for the measurement of concentration of hydrogen ions in aqueous solutions
Wiring, check of correct operation, and adjustment of automatic electronic instruments
Automatic regulation systems
Automatic regulators and their characteristics
Commercial regulators and regulating units
Actuating mechanisms
Tests and adjustments of regulators
Appendix 1-2.
(See also 62-19803)

Flekser, Ya. N.
HYDROELECTRIC POWER PLANTS IN NORTHERN CAUCASUS. 13 Mar 62 [131]p. (45 figs. omitted). JPRS: 12928.
Order from OTS or SLA $10.50 62-23448

Trans. of mono. Iz Opty Eksploatatsii Gidroelektrostantsii Severnego Kavkaza (Operations of the Hydroelectric Power Plants in Northern Caucasus) Moscow, 1958, 56p.

DESCRIPTORS: *Hydroelectric power systems, *Power plants, Operation.

Katona, J.
ACHIEVEMENTS OF HUNGARIAN RESEARCH ON TELECOMMUNICATION ENGINEERING COMPONENTS (Eredmenyek Hiradastechnikai Alkatreszek Kutatasa Teruleten). 24 May 61 [34]p. JPRS: 9296.
Order from OTS or SLA $3.60 62-19235

Trans. of Magyar Tudomanyos Akademia Muszaki Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 26, no. 1/4, p. 235-253.

DESCRIPTORS: Communication systems, *Communication equipment, Electrolytic capacitors, Capacitors, Sizing, Anodes, Surfaces, Electric insulation, Dielectric properties, Cathodes, Paper capacitors, Impregnation, Coatings, Electrostatic capacitance, Impedance bridges, Power supplies, Subminiature electrical equipment, Electrical equipment, Design, *Hungary.

Kazakevich, V. V.
A DEVICE FOR AUTOMATICALLY SWITCHING ON AN EXTREMUM ADJUSTER TO PERFORM A SCAN. 3 Oct 61 [4]p. MCL-1061/1+ 2; AD 265 679.
Order from OTS or SLA $1.10 61-28995

Unedited rough draft trans. of Byulleten' Izobretenii (USSR) 1960, no. 9, p. 2 (USSR) [patent appl.] announcement no. 608314/25, 24 Sep 58).

DESCRIPTORS: *Electronic scanners, Control systems, *Switching circuits, Servomechanisms, *Electronic switches, *Electronic relays, Design.

In order for the adjuster to track the varying extremum, a guard unit is used for the purpose of receiving the transmitter signal and switching on the actuating mechanism of the adjuster, when the extremum changes by a value exceeding the insensitivity zone. For the purpose of using the signum relay of the adjuster as the principle element of the guard unit, additional contacts are used and are mounted on the outside of the elastically mounted working contacts of the signum relay.

Kirsanov, V. I.
DEVICE FOR AUTOMATICALLY TRACING THE ACTUAL IMAGES OF OBJECTS (Ustroystvo dlya Avtomaticheskogo Vycherchivaniya Izobrazhenii Predmetov s Natury). 3 Oct 61 [6]p. MCL-1030/1+2; AD-265 677.
Order from OTS or SLA $1.10 61-28997

Unedited rough draft trans. of Byulleten' Izobretenii (USSR) 1960, no. 14, p. 19 (USSR) [patent appl.] announcement no. 643365/28, 9 Nov 49).

DESCRIPTORS: *Display systems, Television tracking systems, Phototubes, Memory devices, Recording devices, Electronic scanners for *Radar scanning, Radar images, Radar transmitters, *Automatic, *Radar tracking.

A device is described for automatically tracing the actual images of objects, made according to the principle of image scanning, using an illuminating unit, a transmitting mechanism composed of the objective of an electron-beam tube or an apparatus for mechanical image scanning and a recording apparatus. For the purpose of obtaining the image of an object without shadows, with lines only, in the form of a drawing, two memory units and differentiating elements for converting the illumination signal into a signal of the derivative of the illumination are switched into the circuit between the transmitting mechanism and the recording apparatus, and parallel logical comparison mechanisms selecting the coinciding signals arriving from the transmitting mechanism and the signals read off one of the memory units are also switched in.

Kislyakov, A. G.
THE SENSITIVITY OF A CORRELATION MEASURING DEVICE. [1961] [7]p. [DSIR LLU] M. 3169.
Order from OTS or SLA $1.10 61-27500

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1958, v. 1, no. 4, p. 81-89.

DESCRIPTORS: *Correlation techniques, Instrumentation, Sensitivity, Signals, *Radio signals, Measurement, Detectors, Errors, Amplifiers, Radio receivers.

The author considers the question of the sensitivity of a correlation measuring device for the power of weak signals which have a continuous spectrum. The influence of fluctuations of the coefficients of amplification of receivers is examined. A ratio is discovered between the minimum observed signal and the coefficient connecting the inputs of the receivers; it is shown that a slight non-identity of the receivers is unimportant. An estimate is given of the error, during measurements, which arises when there is a small deviation of the detector characteristics of the detectors of the multiplying device from square values. (Author)

Mirovitskii, D. I.
A SPLITTER OF SUPERHIGH-FREQUENCY ENERGY WITH WEAK COUPLING BETWEEN THE CHANNELS. 4 Oct 61 [3]p. MCL-1315/1 + 2; AD-265 719.
Order from OTS or SLA $1.10 61-28985

Unedited rough draft trans from Byulleten' Izobretenii (USSR) 1960, no. 16 (USSR [patent appl.] announcement no. 628843/40, 21 May 59).

DESCRIPTORS: Waveguides, *Waveguide couplers, Wave transmission, Design, Electromagnetic waves, Microwaves, Superhigh frequency, Propagation, Antennas, Transmission lines

A splitter of superhigh-frequency energy with weak coupling between the channels is described, differing in that, for the purpose of increasing the wideness of its band, it is made in the form of several surface-wave lines connected with a common feeder and intersecting it at an acute angle or else smoothly branching out. The surface-wave lines are made of smooth or periodic delay systems, e.g., dielectric or ribbed, which are excited by a surface wave of asymmetrical type.

Netrebenko, K. A.
NEW PRINCIPLES OF CENTRALIZED CONTROL ENGINEERING. 29 Jan 62 [12]p. Trans. Log. no. 1278-F.
Order from OTS or SLA $1.60 62-15725

Trans. of #Priborostroenie (USSR) 1961 [no. 4] p. 8-11.

DESCRIPTORS: Automation, *Control systems, Remote control systems, Design, Operation, Economics, Engineering.

New principles are proposed for mass collection of information over large areas (at that stage when remote control is introduced into central engineering); variants have been devised for centralized control systems of the third class, i.e., on the "facility-shop-plant" level.

Polovko, A. M.
CALCULATING THE DEPENDABILITY OF COMPLEX AUTOMATIC SYSTEMS (O Raschete Nadezhnosti Slozhnykh Avtomaticheskikh Sistem). 3 Nov 61 [11]p. 2 refs. FTD-TT-61-146; AD-267 736.
Order from OTS or SLA $1.60 62-13561

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1960, no. 5, p. 174-178.

DESCRIPTORS: *Electronic systems, Automatic, *Reliability, Tests, Failure, Resistors, Capacitors, Potentiometers, Diodes, Electric motors, Rectifiers, Motor generators, Gyroscopes, Relays, Delay lines, Oscillators, Vacuum tube rectifiers.

Rindfleisch [Hans].
WORK ON INFRARED, RADAR, RADAR INTERFERENCE AND COMMUNICATION TECHNIQUE. [1962] [84]p. (p. 1 of chap. 4 omitted). F-TS-5512-RE ATI 43349.
Order from OTS or SLA $8.10 62-24610

Trans. of unidentified German language mono. pub. 1945.

DESCRIPTORS: *Infrared communication systems, Infrared equipment, Infrared radiation, Infrared research, *Search radar, *Radar interference, Radar equipment, Radar jamming, Radar transmitters, *Radio communication systems.

Staiger, F.
LOAD ASSUMPTIONS FOR ANTENNA STRUCTURES WITH ICING (Belastungsannahmen für Antennenträger im Falle Vereisung) tr. by D. A. Sinclair. 1961, 16p. 4 refs. NRCC Technical Trans. 991.
Order from NRCC $1.00 NRCC C-3851

Trans. of Stahlbau (Germany) 1961, v. 30, no. 1, p. 24-27.

DESCRIPTORS: Antennas, Structures, *Antenna masts, *Towers, *Television antennas, *Load distribution, *Ice, Density.

Taranenko, Z. I.
CORRUGATED WAVEGUIDE AS A DELAY SYSTEM WITH POSITIVE DISPERSION (Volnoobrazno Izognutyi Volnovod kak Zamedlyayushchaya Sistema s Polozhitel'noi Dispersiei). Presented at the All-Union Conference on Radio-Electronics (no. 3) in Kiev, 1959 Nov 61 [14]p. 5 refs. RTS 1975.
Order from OTS or SLA $1.60 62-13093

Trans. of Izvestiya V[ysshikh]U[chebnykh]Z[avedenii]. Radiotekhnika (USSR) 1960 [v. 3] no. 1, p. 30-39.

DESCRIPTORS: *Waveguides, *Delay circuits, Waveguide couplers, Traveling wave tubes, Backward-wave oscillators, Distributed amplifiers, Amplifiers, Excitation, Oscillation, Propagation.

Dispersion curves are examined over a wide range of waves for corrugated rectangular waveguides of two types, those with similar transit windows and with alternate windows of two different diameters. Formulae for calculating the coupling resistances of the system with the electron beam are given. Both types of delay systems are examined from the point of view of their tendency for self-oscillation with the backward wave in an amplifying condition. (Author)

Tovstukha, T. I. and Kupershmidt, Ya. A.
THE SELECTION OF PARAMETERS FOR THE CONTROL PART OF A GRADIENT SYSTEM OF AUTOMATIC OPTIMIZATION [AND] THE PROBLEM OF DIGITAL REPRODUCTION OF SIGNALS OF ANALOGUE TELEMETERING SYSTEMS. 13 Nov 61 [35]p. 3 refs. FTD-TT-61-152; AD-267 719.
Order from OTS or SLA $3.60 62-13560

Unedited rough draft trans. of #Avtomatika i Telemekhanika (USSR) 1961, v. 22, no. 8, p. 1027-1037 and p. 1080-1087.

DESCRIPTORS: *Automation, *Remote control systems, *Telemeter systems, Analog systems.

The parameters of the control part of a gradient system of automatic optimization with one or several independent inputs are selected with consideration of the fact that the steady-state value of the mathematical expectation of the output signal should be rather small. In the case of a system with one input, the working parameters are selected with consideration of the limitation of the average scatter about the steady-state value of the output signal. High-speed systems are evaluated. (Tovstukha) The advantages and ways of realizing digital reproduction of the signals of analogue telemetering systems are indicated. Formulas are derived for the purpose of enabling us to choose the main parameters of pulse-computer digital converters of signals of pulse-time, frequency, and pulse-frequency telemetering systems. A method of estimating the boundaries of applicability of digital reproduction of signals of existing frequency systems is proposed; this method is based on taking into account the effect of averaging. (Kupershmidt)

Tsypkin, Ya. Z.
OPTIMUM PROCESS IN PULSE AUTOMATIC SYSTEMS. [1961] 28p. 13 refs. MDF T-153.
Order from OTS or SLA $2.60 62-13704

Trans. of A[kademiya] N[auk] SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izvestiya: Energ[etika] i Avto[matika] 1960, no. 4, p. 74-93.

DESCRIPTORS: Automatic, *Control systems, Synthesis, Difference equations, Functions, Functional analysis, Digital computers, Programming, Feedback, Pulse modulation, Amplitude modulation, Modulation.

Optimum processes in pulse automatic systems (PAS) are considered to be those processes of finite duration for which some functional, which defines the system quality in a certain sense, achieves an extremum. The production of optimum PAS is associated with the determination of (1) the optimum control effect causing the optimum process, and (2) the structure of the optimum PAS in which the optimum control effect is shaped by signals characterizing the state of the system and accessible to measurement. A theory of optimum processes in PAS is developed under assumptions which include the presence of an external effect. This theory uses the time characteristic of the continuous part, which can be found analytically or experimentally, as the physical characteristic. The solution of the first fundamental problem is based on the theory of the extremum of a function of many variables. The methods described for the construction of optimum PAS lead to equations that determine the optimum control effect. They also permit a projection of the structure of the optimum system. For linear PAS, which include pulse-amplitude modulated PAS, these equations of the optimum control effect can be solved in analytic form and the optimum PAS can be realized by comparatively simple means. For nonlinear PAS, the solution to these equations requires special computers

Mechanical Engineering

Chaikovskiĭ, V., Shmyglya, A., and Savkov, K.
VERGLEICHSVERSUCHE MIT VERSCHIEDENEN KOMPRESSORVENTIL-KONSTRUKTIONEN (Comparative Experiments on Various Types of Compressor Valves). 5p. (text in German).
Order from T.I.B. $1.40

Trans. of Kholodil'naya Tekhnika (USSR) 1959, v. 36, no. 5, p. 17-21.

DESCRIPTORS: *Refrigerant compressors, *Valves, Test facilities.

Frenkel', M. I.
PLATTENVENTILE OHNE STRÖMUNGSUMLENKUNG FÜR KOLBENVERDICHTER (Plate Valves without Flow Deflection for Reciprocating Compressors). 10p. (text in German).
Order from T.I.B. $1.55

Trans. of Khimicheskoe Mashinostroenie (USSR) 1960, v. 4, no. 3, p. 4-8.

DESCRIPTORS: *Compressors, *Gate valves.

Ordnance, Missiles, and Satellite Vehicles

THE BUNDESWEHR DESIRES GERMAN TANKS (Bundeswehr Wuenscht Deutsche Panzer) tr. by H. Holz. [1958] 4p. H-1795.
Order from OTS or SLA $1.10 59-11216

Trans. of Wehr und Wirtschaft (West Germany) 1957, Oct-Nov, p. 40.

DESCRIPTORS: Army, Military equipment, National defense, *Tanks, Design, *Germany, Weightlessness.

LIFE SUPPORT SYSTEMS: SOVIET LITERATURE. 30 Nov 61 [12]p. 48 refs. AID rept. 61-156; AD-269 794.
Order from OTS or SLA $1.60 62-15419

DESCRIPTORS: *Scientific reports, *Space flight, Manned, Laboratory animals, Closed-cycle ecological systems, Stress (Physiology), Stress (Psychology), Weightlessness, Radiation effects, Radiation damage, Telemitering data.

Contents:
Ecological system
Stress factors; acceleration, noise, vibration
Weightlessness
Radiation effects
Training and biotelemetry
Bibliographic information
References.

THE MATRA R.422 GROUND-TO-AIR MISSILE (L'Engin Sol-air Matra R. 422) tr. by A. D. S. [1959] [4]p. (1 illus. omitted). H-3065.
Order from OTS or SLA $1.10 59-21021

Trans. of Aviation Magazine (France) 1958, no. 264, p. 11.

DESCRIPTORS: *Surface to air, *Guided missiles, Design, Operation, Electronic equipment, France.

USSR MISSILE AND ROCKET PROGRAM: BIBLIOGRAPHY. 14 Dec 61 [72]p. 709 refs. AID rept. 61-12; AD-269 791.
Order from OTS or SLA $7.60 62-15422

Based on Russian monographs, periodicals, conference proceedings, newspapers, and other sources prior to May 60.

DESCRIPTORS: *Bibliography, *Space flight, *Extraterrestrial bases, *Guided missiles, Rockets, Propulsion, Propellants, Fuels.

Contents:
Guided missiles
Rockets (aeronautics)
Rockets (ordnance)
Space flights
Spaceships stations
Interplanetary voyages
Engines, fuels, and propellants
General

Danyleiko, V.
NEW PROBLEMS OF BIOLOGY. 1 Nov 61 [7]p. JPRS: 10826.
Order from OTS or SLA $1.10 62-13385

Trans. of Znannya ta Pratsya (USSR) 1961, no. 6, p. 6-7.

DESCRIPTORS: *Biology, *Space environmental conditions, *Food, Water supplies.

Isaev, V. K.
PONTRYAGIN'S MAXIMUM PRINCIPLES AND OPTIMUM PROGRAMMING OF ROCKET THRUST, tr. by B. W. Kuvshinoff. 17 Nov 61, 23p. 13 refs. APL/JHU TG 230-T254.
Order from OTS $0.75 62-11117

Trans. of #Avtomatika i Telemekhanika (USSR) 1961 [v. 22] no. 8, p. 986-1001.

DESCRIPTORS: *Rocket flight, Mathematical analysis, *Thrust, Programming, Non-linear differential equations, Control.

A theory is given for optimum programming of rocket thrust for cases of two- and three-dimensional motion in a homogeneous gravitational field, ignoring aerodynamic forces. Pontriagin's maximum principle equations for the problem are integrated in a final form depending on parameters. The maximum principle is applied for investigation of a system described by nonlinear differential fifth- and seventh-order equations. (Applied Physics Lab. abstract)

Walczewski, J.
POLISH RESEARCH ON THE RM-2C AND RM-2D ROCKETS, PTS. 1-2. 27 Nov 61 [9]p. JPRS: 11300.
Order from OTS or SLA $1.10 62-19552

Trans. of Skrzydlata Polska, 1961 [v. 17] no. 27, p. 13 and no. 28, p. 13.

DESCRIPTORS: *Rocket research, *Poland, Rockets, Launching, Electronic equipment, Space medicine.

A rather general (nontechnical) account is presented of the RM-2C and RM-2D rockets, their electronic instrumentation, and their successful launching on April 10, 1961.

Sanitation and Safety Engineering

Ardelean, I.
FROM THE RESEARCH-ACTIVITY OF THE INSTITUTE FOR HYGIENE, BUCHAREST, RPR, IN 1956. 21 Nov 58, 9p. JPRS(NY)-L-488.
Order from OTS or SLA $1.10 59-11279

Trans. of Ocrotirea Sanatatii in RPR (Rumania) 1957, v. 2, Apr/June, p. 112-118.

DESCRIPTORS: *Public health, Preservation, Medical research, *Rumania, Sanitary engineering.

The presentation of a few examples from the work of the Institute illustrates the character of the subject, the orientation, the methods, and the results obtained, all of these with the aim of their application in practice for the protection of public health. (Author)

Rummel, W.
SIGNIFICANCE OF AUTOMATIC MEASURING AND REGULATING EQUIPMENT IN WATER ECONOMY. 26 Feb 62 [10]p. JPRS: 12679.
Order from OTS or SLA $1.10 62-19765

Partial trans. (some sections summarized) of Automatisierung (East Germany) 1961, v. 4, no. 7, p. 294-297.

DESCRIPTORS: *Sanitary engineering, Engineering, *Water supplies, Water, Consumption, Chemical analysis, Purification, Oxygen, Temperature, Electrolytes, Conductivity, Hydrogen ion concentration, Automatic, Measurement, Chlorine, Chlorine compounds, Dioxides, Determination, Colorimetric analysis, Photometers, Detergents, Sedimentation, Control, *East Germany.

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

USSR, GOVERNMENT STANDARDS: GRAIN SUPPLIES, tr. by M. Raymist. 1961, 202p. PL-480 Agr.
Order from OTS $2.00 60-21863

Trans. of mono. SSSR Gosudarstvennye Standarty: Zerno Prodovol'stvennoe, Moscow, 1959 [180p.].

DESCRIPTORS: *Cereals, *Seeds, *Food, *Standards, Procurement, Flour, *Wheat, Rye, Barley, Corn, Rice, Buckwheat.

All-Union Standards (OST's) and All-Union Government Standards (GOST's) approved up to 1 January 1959 are given for (1) state procured wheat for food, (2) state distributed wheat for food, (3) state procured rye for food, (4) edible rye for distribution, (5) barley for beer brewing, (6) barley for groats, (7) barley for flour, (8) food and fodder barley, (9) barley for alcohol production, (10) oats for groats production, (11) food and fodder oats, (12) oats for malt used in the production of alcohol, (13) state procured millet, (14) millet for malt used in alcohol production, (15) buckwheat, (16) buckwheat for groats, (17) corn grain, (18) corn on the cob, (19) rough rice, (20) sorghum grain (for food, fodder and industrial purposes), (21) sampling and methods of laboratory determination of the quality of grain (food, fodder, and commercial grain), (22) testing methods for flour and bran, (23) hard wheat, and (24) strong wheat.

Chernigin, N. F.
A NEW METHOD OF CATCHING FISH [Novyi Sposob Lova Ryby] tr. by Emily R. Moe. 31 Oct 60 [11]p. 1 ref.
Order from OTS or SLA $1.60 61-19746

Trans. of Rybnoe Khozyaistvo (USSR) 1956, v. 32, no. 2, p. 22-29.

DESCRIPTORS: *Fishes, Food, Marine biology, *Electric fields, Electric currents, Electrical equipment.

Heilpern, J.
THE USE OF IONIZING RAYS IN THE PRESERVATION OF FOOD. 12 Nov 58, 12p. 25 refs. JPRS/DC-L-1094.
Order from OTS or SLA $1.60 59-11308

Trans. of Igiena (Rumania) 1958, v. 7, no. 1, p. 51-59.

DESCRIPTORS: *Food, Preservation, *Radiation effects, Gamma rays.

Katsitadze, V. F.
METHODS FOR STUDYING THE ACTUAL NUTRITION OF THE POPULATION (Puti Izucheniya Fakticheskogo Pitaniya Naseleniya). 11 Aug 61 [6]p. (refs. omitted). NIH no. 8-8-61.
Order from OTS or SLA $1.10 61-27793

Trans. of Voprosy Pitaniya (USSR) 1959 [v. 18] no. 1, p. 68-71.

DESCRIPTORS: *Population, *Nutrition, Physiology, Food.

The determination of physiological standards of nutrition should be conducted with consideration of the actual nutrition of the population according to climatogeographic zones, on the basis of local habits and tradition. This study should be carried out by the direct or laboratory method, insofar as all other methods based on indirect questioning and questionnaires are subjective. A modified scheme for the study of nutrition is described. (Author)

Lacoste, G.
NO, PRESERVED FOODS WILL NOT ALWAYS BE "CANNED GOODS" (Non, les Aliments Conserves ne Seront pas Toujours des "Conservés") tr. by W. E. C. [1959] [15]p. (7 figs. photos. omitted) H-2834 B.
Order from OTS or SLA $1.60 59-16290

Trans. of Sciences et Avenir (France) 1958, no. 139, p. 478-483.

DESCRIPTORS: Nutrition, *Food, Preservation, Pork, Electricity, Vitamins, Radiation effects, Chemistry.

Molchanova, O. P.
DEVELOPMENT OF THE SCIENCE OF HUMAN NUTRITION IN THE USSR DURING THE FORTY YEARS OF SOVIET POWER (Razvitie Nauki o Pitanii Cheloveka v SSSR za Let Sovetskoi Vlasti). [1961] 8p.
Order from OTS or SLA $1.10 62-15096

Trans. of Voprosy Pitaniya (USSR) 1957, v. 16, no. 5, p. 3-8.

DESCRIPTORS: *Nutrition, Diet, Food

Novotny, A. and Shtelovskaya, V.
DIET STUDIES IN A GROUP OF WORKERS AT A PLANT FOR HEAVY MACHINERY, AND THE POSSIBILITY TO ENRICH THEIR DAILY FOOD RATIONS WITH VITAMINS UNDER PUBLIC SPONSORSHIP. [1961] 9p. (refs. 4 figs. omitted) 4 refs.
Order from OTS or SLA $1.10 62-10255

Trans. of Vopro[sy] Pitan[iya] (USSR) 1960, v. 19 [no. 5] p. 9-13].

DESCRIPTORS: *Nutrition, Food, *Diet, *Vitamins, Ascorbic acid, Thiamine, Vitamin B, Additives, Effectiveness

Some 151 machine operators in a large industrial plant served as experimental subjects. For 8 months (Feb. to Oct.) the breakfasts of 76 of these subjects were enriched with synthetic vitamins (130 mg of vitamin C, 2.5 mg of B_1, and 1.5 mg of B_2). The other 75 subjects received an identical breakfast without the additional vitamins. Each subject was examined 3 times prior to the tests, 1 1/2 months after the start of the test, and 1 week after the test had finished. The examinations were made to determine the general state of their health and "how charged [their] organism was with vitamins" (sic). Probable dietary deficiencies were found in 1/3 of the workers prior to the tests. During the tests about 42% of the subjects excreted in their urine more than 3% of the supplementary B_1, thereby indicating that their diets were sufficient in this respect without the supplement. About 1% secreted less than 0.4%, indicating a deficiency in their diets. About 9.5% excreted less than 20% of the B_2, indicating an insufficiency of this vitamin, while 53% excreted less (sic: probably the word "more" is intended) than 20%. In 40% of the subjects less than 3 mg of vitamin C was found in the urine, indicating a dietary deficiency. The 2 groups showed no differences in blood hemoglobin. The overall clinical picture of the group with the vitamin-enriched breakfast was clearly superior to that of the other group. A good effect could be attributed solely to vitamin C.

Trisvyatskii, L. A.
FORTY YEARS OF GRAIN STORAGE SCIENCE IN THE USSR, tr. by Baruch Shapiro. 1961, 63p. 5 refs. PL-480 Agr.
Order from OTS $0.75 60-51053

Trans. of mono. Sorok Let Nauki o Khranenii Zerna v SSSR, Moscow, 1958 [78p.].

DESCRIPTORS: *Cereals, *Seeds, Flour, *Food, *Storage, Deterioration, Preservation, Microorganisms, Insects, Mites, Pest control, Heat, Economics, *Handling.

Contents:
Grain storage - a new branch of scientific knowledge
Grain in bulk as an object of storage
Grain and microorganisms
Control of grain pests
Spontaneous heating as a principal cause of grain spoilage in storage
The correct method of storing flour and cereals
Storing grain products cheaply and without loss
Improving the storage technology of grain products

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

Zolotykh, E. V. and Burova, L. L.
A STUDY OF SOME PROPERTIES OF MANGANIN RESISTANCE GAUGES UP TO 10000 kg/cm^2 (Izuchenie Nekotorykh Avoistv Manganinovykh Manometrov Soprotivleniya do 10000 kgs/cm^2). Dec 61 [10]p. 4 refs. RTS 1990.
Order from OTS or SLA $1.10 62-13747

Trans. of Komitet Standartov, Mer i Izmeritel'nykh Priborov. Trudy Inst[itut] Komiteta (USSR) 1960, v. 46(106) p. 62-67.

DESCRIPTORS: *Gages, Galvanometers, Electrical equipment, Coils, Resistance, *High pressure research.

Engines and Propulsion Systems

Abrukov, S. A.
OBSERVATION OF TEMPERATURE WAVES DURING FLAME OSCILLATIONS IN A PIPE (Nablyudenie Temperaturnykh Voln pri Kolebaniyakh Plameni v Trubke]. [1960] 2p. 2 refs. MDF A-145.
Order from OTS $0.50 62-11357

Trans. of A[kademiya] N[auk] SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Energ[etika] i Avto[matika] 1959, no. 2, p. 139.
Another translation is available from OTS $2.25 as part of 59-13981; JPRS(NY)-L-1117, 2 Dec 59, 78p.

DESCRIPTORS: *Combustion, Temperature, Flames, *Flame propagation, Vibration, Oscillation, Photographic analysis, Schliern photography, Refractive index, Pipes, Rockets.

Oblique light and dark bands of lesser intensity issued from the flame front toward the combustion products. Their length and intensity increased as the amplitude of the flame oscillations increased. Their appearance on the Schlieren photograph indicates that the refractive index in the combustion products varies periodically along the pipe. As calculations have shown, the zones of elevated and reduced refractive index (n) move toward the open end with the velocity of the combustion products. Such a change in n during vibrational flame propagation can be related only to the presence of alternating zones of elevated and reduced temperature (relative to the average temperature of the combustion products in the given section) in the combustion products, i. e., related to the appearance of temperature waves being propagated behind the flame front along with the combustion products. products.

Deich, V. E. and Samoilovich, G. S.
THE COMPARISON OF EXPERIMENTAL AND DESIGN DATA ON LEAKAGES THROUGH LABYRINTH SEALS. [1961] [12]p. [DSIR LLU] M. 3090.
Order from OTS or SLA $1.60 61-27552

Trans. of mono. Aerodynamic Principles of Axial Turbomachines, Moscow, n.d., p. 318-325.
#Portions of this report will not reproduce well.

DESCRIPTORS: *Steam turbines, Turbines, Disks, Shafts, Gas flow, Seals, *Gas seals, Design, Tests.

Trofin, I.
CHARACTERISTIC FEATURES OF SUPERSONIC TURBOREACTORS (Practicularitatile Turboreactoarelor Pentru Viteze Supersonice). 3 Aug 61 [20]p. JPRS: 9767.
Order from OTS or SLA $1.60 62-19577

Trans. of Revista Transporturilor (Rumania) 1961, v. 8, no. 3, p. 121-127.

DESCRIPTORS: *Supersonic planes, Airplanes, Airplane engines, *Gas turbines, Compressors, Axial flow compressors, Thermodynamics, Nickel alloys, Cobalt alloys, Alloys, Heat resistant alloys.

Wolf, W.
INVESTIGATION OF CARBURETOR ICING OF OTTO-CYCLE ENGINE FUELS IN ENGINES AND OF THE EFFECTIVENESS OF ANTI-ICING ADDITIVES. [1962] 17p.
Order from ATS $19.95 ATS-50N58G

Trans. of Erdöl und Kohle (West Germany) 1961, v. 14, no. 9, p. 725-731.

DESCRIPTORS: Carburetors, Ice, Internal combustion engines, Fuels, Additives, *Ice prevention.

Machine Parts and Mechanisms

Höhne, Erich.
THE SURFACE HARDENING OF GEARS. [1962] [20]p. 19 refs.
Order from SLA $1.60 62-14196

Trans. of V[erein] D[eutscher] I[ngenieur]. Zeitschrift (West Germany) 1958, v. 100, no. 6, p. 241-248.
Another trans. is available from BISI & 7 as BISI-1343 [1960].

DESCRIPTORS: *Gears, Hardening.

For abstract see Technical Translations 3: 584, 1960.

Yuditskiĭ, F. L.
ARBEITSMECHANISMEN DER GETEILTEN KOLBENRINGE AUS GRAPHIT (Operation and Calculation of Graphite Segmented Piston Rings). 9p. (text in German)
Order from T.I.B. $1.55

Trans. of #Vestnik Mashinostroeniya (USSR) 1959 [v. 39] no. 6, p. 40-43.

DESCRIPTORS: Pistons, *Piston rings, *Graphite.

Manufacturing Equipment and Processes

A LOOK AT NOGOYA ENGINEERING WORKS. FACTORY GUIDE. NEW MITSUBISHI HEAVY INDUSTRIES CO., LTD., tr. by W. R. D. [1958] 18p. ACSI H-1881.
Order from OTS or SLA $1.60 59-11212

Trans. of unidentified Japanese mono. pub. by Bunyodo Printers, 1954.

DESCRIPTORS: *Industrial plants, Japan, *Directories.

Kitaev, B. I. and Kukarkin, A. S.
FLOW EFFECTS IN THE BLAST-FURNACE BOSH. Apr 62, 2200 words.
Order from HB $5.50 HB-5085

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1960, no. 10, p. 40-45.

DESCRIPTORS: *Blast furnaces, *Gas flow, Surface tension, Slags.

PLANT GUIDE: NAGOYA ENGINEERING WORKS. NEW MITSUBISHI HEAVY INDUSTRIES CO., LTD., tr. by W. R. D. [1958] 9p. ACSI H-1880.
Order from OTS or SLA $1.10 59-11213

Trans. of unidentified Japanese mono. pub. by Nippon Koken Co., Ltd., 1953.

DESCRIPTORS: *Industrial plants, Japan, *Directories.

Razumikhin, V. N. and Borzunov, V. A.
HIGH PRESSURE PISTON GAUGES (Porshneve Manometry Vysokiky Davlenii). Dec 61 [10]p. 6 refs. RTS 1989.
Order from OTS or SLA $1.10 62-13755

Trans. of Komitet Standartov, Mer i Izmeritel'nykh Priborov. Trudy Institutov Komiteta (USSR) 1960, v. 46(106) p. 55-61.

DESCRIPTORS: *Gages, *Pistons, Pressure, Design Production, Engine cylinders, Instrumentation, *High pressure research.

A gauge with a differential piston is described that was designed and produced for research purposes (checking the basic assumptions of free-piston theory, experimental determination of deformation corrections to piston gauges).

Schmelzer, Gyozo and other.
THE TECHNICAL DEVELOPMENT OF THE INDUSTRY IN THE THREE-YEAR PLAN [AND] FROM HERE AND THERE (Az Ipar Müszaki Fejlödese a 3 Eves Tervben. Innen, Onnan) tr. by A. D. S. [1958] [8]p. H-1991.
Order from OTS or SLA $1.10 59-11268

Trans. of Muszaki Elet (Hungary) 1958, [v. 13] 12 June 1958, p. 3, and 8.

DESCRIPTORS: *Industry, Growth, Economics, Industrial production, *Mining engineering, Engineering, *Electric power production, Machines, Chemical industry, *Textile industry, *Hungary.

Transport, Traction and Hoist Facilities

COMMITTE ABOUT THE ORGANIZATION AND CONTROL OF SIGNALS (NO. 13) REPORT [AND] COMMITTEE ON THE METHODS OF THE MAINTENANCE OF RAILROADS AND THEIR BRIDGES (NO. 9) REPORT. [1959] [143]p. H-4043.
Order from OTS or SLA $11.00 59-19904

Trans. of two monos. pub. by Ministry of Communications, Egyptian Republic Railroads, Cairo, 1956? [sic].

DESCRIPTORS: *Railroads, Railroad tracks, *Railroad bridges, Maintenance, Automatic, Control systems, Electrical equipment, *Signals, Egypt.

THE MINISTRY OF COMMUNICATIONS IN SEVEN YEARS 1952-59; THE UNITED ARAB REPUBLIC, THE EGYPTIAN REGION. [1960] [167]p. (202 illus. omitted). H-6008.
Order from OTS or SLA $12.00 60-17387

Trans. of unidentified mono. pub. by the Public Authority for the Egyptian Railway System, 28 Oct 59, sects. 1-3, p. 1-292.

DESCRIPTORS: *Railroads, Transportation, *Roads, *Inland waterways, *Egypt.

MODERN RAILS. STEAM AND ROMANTICISM (Le Rail Moderne. Vapeur et Romantisme) by J. M. D., tr. by S. D. S. [1958] 25p. H-1610.
Order from OTS or SLA $2.60 59-11204

Trans. from La Libre Belgique, 1956, publ. in eight installments, 30 Mar-6 Apr.

DESCRIPTORS: *Railroad cars, Steam, External combustion engines, Electric motors, *Locomotives, Control, Transportation, *Belgium.

The passing of the steam locomotive is discussed.

Cambournac, M., Barbet, G., and Mouraille, L.
GERMAN AND ITALIAN MOTOR HIGHWAYS, A. CONSTRUCTION OF PENETRATION ROADS IN MOUNTAINOUS TERRAIN, B. AT THE XII CONGRESS OF THE NATIONAL FEDERATION OF HIGHWAYS TRANSPORTATION, C. (Notes sur les Autoroutes Allemandes et Italiennes, A. Construction de Chemins de Penetration en Relief Mongagneux, B. Au 12 Congrès de la Fédération Nationale des Transports Routiers, C.) tr by E. H. [1958] [31]p. (22 illus. 1 map omitted). H-0807 A, B, and C.
Order from OTS or SLA $3.60 59-11227

Trans. from Routes et des Aerodromes (France) 1957, November.

DESCRIPTORS: Mountains, Terrain, *Roads, Construction, Maintenance, Transportation, *Germany, *Italy, Conferences.

Jung, R.
A HOLLOW SHAFT AS A CONVEYOR FOR LOOSE GRANULAR MATERIAL. Feb 62.
Order from BISI £4 15s BISI-2558

Trans. of Forschung auf dem Gebiete des Ingenieurwesens (West Germany) 1959, v. 25, 23 Nov, p. 37-43.

DESCRIPTORS: *Shafts, *Conveyors, Materials.

Kloth, Willi.
STRESS FIELD AS A FUNDAMENTAL TOOL IN CRANE DESIGN. [1962] [13]p. 8 refs.
Order from SLA $1.60 62-14190

Trans. of Stahl und Eisen (West Germany) 1960, v. 80 no. 3, p. 159-164 (Verein Deutscher Eisenhüttenleute (West Germany). [Berichte]-289).
Another trans. is available from BISI £ 4 10s as BISI-1628 [1960].

DESCRIPTORS: *Hoists, Design, Stresses.

For abstract see Technical Translations 3: 589, 1960.

Naud and other.
THE CONGO-OCEAN RAILROAD IS IN FULL DEVELOPMENT [AND] THE BANGUI-CHAD RAILROAD, KEY TO THE DEVELOPMENT OF FRENCH EQUATORIAL AFRICA'S NORTHERN TERRITORIES (Le Chemin de Fer Congo-Ocean est en Plein Developpement. Le Chemin de Fer Bangui-Tchad Clé d'une Expansion des Territoires de Nord de l'A.-E. F.) tr. by A. D. S. [1958] [7]p. H-2182.
Order from OTS or SLA $1.10 59-11276

Trans. of mono. Afrique Equatoriale Française, Brazzaville, 1957, 8-9 Dec., p. B and G.

DESCRIPTORS: *Railroads, Construction, Transportation, *Congo, Africa, *French Equatorial Africa, Commerce.

Robitashvili, G. V.
ROAD SIGN LETTERING MUST BE IMPROVED (Uporyadochit' Nadpisi na Dorozhnykh Znakakh) tr. by R. C. Halsall. Feb 60 [5]p. (foreign text included). Library communication no. 819; [DSIR NLL] M. 2937.
Order from OTS or SLA $1.10 61-23390

Abbreviated trans. of Avtom[obil'nye] Dorogi (USSR) 1958, v. 21, no. 4, p. 15-16.

Portions of this report will not reproduce well.

DESCRIPTORS: *Motor vehicle operators, *Markers, Intelligibility, *Traffic.

MATERIALS

Bluszcz, Jan.
FLOORING MATERIALS IN THE FIVE-YEAR PLAN. 14 Nov 58, 8p. JPRS(DC)-L-878.
Order from OTS or SLA $1.10 59-11054

Trans. of Materialy Budowlane (Poland) 1957, v. 12, no. 5, p. 150-152.

DESCRIPTORS: *Housing, *Floors, Construction, Materials, Production, *Construction material industry, *Poland.

Bogdanova, I. V.
PHOTOMETRISCHE BESTIMMUNG DES KALZIUM-GEHALTES IN ZEMENTROHMISCHUNGEN UND KLINKER UNTER VERWENDUNG VON KOMPLEXONEN (Photogrammetrical Analysis of the Calcium Content in Cement Raw Mixtures and Clinkers by using Complexons). 9p. (text in German).
Order from T.I.B. $1.55

Trans. of Tsement (USSR) 1960, v. 26, no. 6, p. 27-29.

DESCRIPTORS: *Cement, *Chemical analysis, Photometers, *Calcium, Laurates.

Bokshteĭn, S. Ya.
ÜBER EINEN TYP DES UMLAUFKLASSIFIKATORS (A New Type of a Circulation Classifier). 4p. (text in German).
Order from T.I.B. $1.40

Trans. of Tsement (USSR) 1960, v. 26, no. 2, p. 26-28.

DESCRIPTORS: *Cements, *Separation.

Denyakin, Z. A. and Kabanov, V. S.
FEINMAHLUNG VON KREIDE-TON-SCHLAMM IM DURCHFLUSSDESINTEGRATOR (Fine Grinding of Chalk-clay Slurries in Disintegrators). 5p. (text in German).
Order from T.I.B. $1.40

Trans. of Tsement (USSR) 1960, v. 26, no. 5, p. 22-24.

DESCRIPTORS: *Milling machines, Clays.

Ershov, L. D.
ZEMENT AUS FLÜSSIGEN SCHLACKEN (Cement Produced from molten Slags). 4p. (text in German).
Order from T.I.B. $1.40

Trans. of Tsement (USSR) 1960, v. 26, no. 3, p. 14-16.

DESCRIPTORS: *Cements, *Slags, *Blast furnaces.

Khodorov, E. I.
DAS KONSTRUIEREN UND DIE BETRIEBSEIGENSCHAFTEN VON DREHÖFEN (Construction and Operation of Rotary Cement Kiln). 11p. (text in German).
Order from T.I.B. $1.85

Trans. of Tsement (USSR) 1960, v. 26, no. 5, p. 5-10.

DESCRIPTORS: *Cements, *Rotary furnaces.

Luginina, I. G.
BESONDERHEITEN DER BILDUNG VON KALZIUMSILIKATEN BEI SCHNELLEM ERHITZEN (Particularities of the Formation of Calcium Silicates at Fast Heating). 5 p. (text in German).
Order from T.I.B. $1.40

Trans. of Tsement (USSR) [1959] v. 25, no. 5, p. 21-24.

DESCRIPTORS: *Silicates, Calcium compounds.

Milewski, Antoni
THE PROBLEM OF FLOORING MATERIALS IN POLAND. 1 Dec 58, 17p. JPRS(DC)-L-544.
Order from OTS or SLA $1.60 59-11138

Trans. of Materialy Budowlane (Poland) 1957, v. 12, no. 12, p. 366-371.

DESCRIPTORS: *Housing, *Floors, Construction, Materials, Production, *Construction materials industry, *Poland.

Strelkov, M. I., Kryzhanovskaya, I. A. and others.
KONTINUIERLICHES VERFAHREN ZUR AUFBEREITUNG VON ROHMISCHUNGEN ALS GRUNDLAGE EINES VOLLAUTOMATISCHEN ZEMENTWERKES (Continuous Process at the Preparation of Raw Mixtures as Basis of a Fully Automatic Cement Factory). 9p. (text in German).
Order from T.I.B. $1.55

Trans. of Tsement (USSR) 1960, v. 26, no. 5, p. 14-18.

DESCRIPTORS: *Cements, Mixtures, Preparation.

Surewicz, W., Olszewski, and Modrzejewski, K.
DEGREE OF COOKING AND EVALUATION OF KRAFT PULPS. [1961] [10]p.
Order from SLA $1.10 62-14254

Trans. of Zellstoff und Papier (Germany) 1961, v. 10, no. 9, p. 329-334.

DESCRIPTORS: *Wood pulp, Processing, Mechanical properties, Paper industry.

Tests showed that degree of cooking is a satisfactory criterium for Kraft pulps both in regard to pulp yield and other properties which are significant for additional processing. The general character of correlations between pulp yield, pulp strength and degree of cooking of Kraft pulps is similar for pulps made at different cooking conditions (maximum temperature, alkalinity, sulphidity). Maximum screened pulp yields were obtained at Oestrand numbers 65 to 60 (73). Screened pulp yield decreases rapidly above Oestrand No. 70 to 73 and screenings go up accordingly. Pulps of Oestrand numbers 60 to 70 show optimum strength. Pulps either softer or harder than the above given range show lower burst and tear. Beating time to a given freeness decreases with higher Oestrand numbers, particularly above Oestrand numbers 65 to 70. However, pulps within the above range (at constant beating time: 70 min.) show optimum strength. Kraft pulps cooked within the optimum range of the degree of cooking with regard to maximum screened pulps yield show at the same time their optimum strength characteristics. Consequently, a degree of cooking between Oestrand numbers 60 to 70 (lignin 6 to 7%) should be considered optimum for unbleached Kraft pulps for paper making.

Swiacki, Michal.
LONG RANGE PLANS FOR SUPPLYING CONSTRUCTION WITH CERAMIC AND WALL MATERIALS. 26 Nov 58, 16p. JPRS(NY)-L-528.
Order from OTS or SLA $1.60 59-11128

Trans. of Materialy Budowlane (Poland) 1958, v. 13, no. 2, p. 49-54.

DESCRIPTORS: *Housing, *Walls, Construction, Materials, *Ceramic materials, Cement, Clays, Gypsum, Production, *Construction material industry, *Poland.

Swiacki, Michal.
PROSPECTS FOR HOUSING CONSTRUCTION MATERIALS IN THE FIVE-YEAR PLAN [POLAND]. 6 Nov 58, 22p. JPRS(NY) rept. no. 861.
Order from OTS or SLA $2.60 59-11015

Trans. of Materialy Budowlane (Poland) 1957, v. 12, no. 3, p. 65-72.

DESCRIPTORS: *Housing, Construction, Materials, Production, *Construction material industry, *Poland, Floors, Walls, Heating.

Toropov, N. A. and Volkonskiĭ, B. V.
DIE POLYMORPHEN UMWANDLUNGEN VON 3 CaO-Si O_2 UND DER EINFLUSS VON EISENOXYDUL AUF 3 CaO-Si O_2 UND ANDERE KLINKERMINERALE (Polymorphic Transformations of 3 CaO-SiO_2 and the Influence of Ferrous Oxide on 3 CaO-SiO_2 and other Clinker Minerals). 7p. (text in German).
Order from T.I.B. $1.55

Trans. of Tsement (USSR) 1960, v. 26, no. 6, p. 17-20.
A trans. in English is available from OTS or SLA $1.10 as 61-27055, LC-1041, Mar 61 [6]p.

DESCRIPTORS: *Cements, *Silicates, Iron compounds, Oxides, Wollastonite.

Val'berg, G. S., Zavgorodniĭ, N. S. and others.
SAUERSTOFFANREICHERUNG DER LUFT BEIM BRENNEN DES KLINKERS IN SCHACHTÖFEN (Oxygen Concentration in the Air at Burning of Clinkers in Shaft Kilns). 10p. (text in German).
Order from T.I.B. $1.55

Trans. of Tsement (USSR) 1960, v. 26, no. 3, p. 3-8.

DESCRIPTORS: Air, *Cements, *Brick, Oxygen, Sintering furnaces.

Ceramics and Refractories

Kitaigorodskiĭ, I. I.
GLASS IN CERAMICS (Steklo v Keramike). [1962] [43]p. (foreign text included) 29 refs.
Order from OTS or SLA $4.60 62-14505

Trans. of Khim[icheskaya] Nauka i Prom[yshlennost'] (USSR) 1958, v. 3 [no. 1] p. 35-45.

DESCRIPTORS: *Glass, Melting, *Ceramic materials, Sintering, Mechanical properties, Manufacturing methods.

Witten, Johannes Loeffler.
TESTING OF SHEET GLASS FOR SENSITIVITY TO CLIMATE. [1962] 16p. (5 figs. 21 refs. omitted).
Order from SLA $1.60 62-14499

Trans. of Glastechn[ische] Ber[ichte] (West Germany) 1956, v. 29, no. 4, p. 131-137.

DESCRIPTORS: *Glass, Sensitivity, *Climatic factors, Test methods.

Sheet glass is decomposed by moisture only in its packing, either by wet rain or when stored in moist rooms. Two types of decomposition appear as damages which show, however, the same technical course and produce the same typical defect, the so-called dulling, which is absence of reflection by chemical changes in the top layer. The testing method described here reproduces, in contrast to all other methods, the defect occurring in practice and measures either the chemical change produced or the time necessary for the dulling, which is the only technical measure for the sensitivity to climate. The method was tried out in various domestic and foreign sheet glasses. (Author)

Fuels, Lubricants, and Hydraulic Fluids

Bartel, A. A., Graue, G., and Lückerath, W.
A HIGH-TEMPERATURE [HIGH PRESSURE] LUBRICANT AND DATA ON ITS PERFORMANCE, PT. II Feb 62, 4600 words.
Order from HB $12.50 HB-5432

Trans. of Stahl und Eisen (West Germany) 1961, v. 81, no. 18, p. 1187-1192.

DESCRIPTORS: *Lubricants, Temperature, Pressure.

See also HB-5268

Lichtig, Ignaz, compiler.
CONVERSION OF COAL TO FLUID FUELS: ABSTRACTS OF SELECTED GERMAN PATENT APPLICATIONS. 1961, 112p. Bureau of Mines Information Circular 8065.
Order from GPO $0.60 GPO I 28.27:8065

DESCRIPTORS: *Patents, Germany, Abstracting, *Coal, Processing, *Fuels, Liquids, Gases, Production.

Nadziakiewicz, J[ulian] Zielinski, H[enryk] and othe others.
PRODUCTION OF METALLURGICAL COKE FROM NON-COKING COAL ACCORDING TO THE PROCESS OF THE INSTITUTE FOR CHEMICAL CONVERSION OF COAL. [1961] 13p. 5 refs.
Order from SLA $1.60 62-10043

Trans. of Koks, Smola, Gaz (Poland) 1957, v. 2, no. 2, p. 41-47.
Another trans. is available from OTS or SLA $2.60 as 59-22339 [1959] 24p.

DESCRIPTORS: *Coal, *Coke, *Metallurgy, Poland.

For abstract see Technical Translations 6:358, 1961.

Leather and Textiles

THE REDUCTION OF STATIC ELECTRICITY ON TEXTILE FIBERS. 18 Oct 61, 8p.
Order from SLA $1.10 62-14291

Trans. of l'Industrie Textile (France) 1961 [v. 78] no. 889, p. 245-246.

DESCRIPTORS: *Textiles, *Synthetic fibers, *Static electricity, *Reduction, Manufacturing methods.

Nüsslein, J.
PILLING, ITS ORIGIN, EFFECT AND HOW IT CAN BE COMBATTED (Das Pillen, Seine Entstehung, Auswirkung und Bekämpfung) tr. by H. Nathan. 1961, 14p. 3 refs. NRCC Technical Trans. 1000.
Order from NRCC $1.00 NRCC C-3917

Trans. of Textil-Praxis (West Germany) 1961, v. 16, no. 5, p. 447-451.

DESCRIPTORS: *Textile industry, *Synthetic fibers, Processing, Manufacturing methods.

Rudolph, L.
ELASTICITY MEASUREMENTS ON VARIOUS FIBERS. [1962] 6p. (7 figs. omitted).
Order from SLA $1.10 62-14647

Trans. of Rayonne et Fibres Synthetiques (Belgium) 1959, v. 15, no. 10, p. 1113-1120.

DESCRIPTORS: *Fibers, *Synthetic fibers, Elasticity, Textile industry, *Textiles.

Photographic Materials

Deryagin, B. V. and Levi, S. M.
USE OF A LIMITING BLADE IN APPLYING EMULSION LAYERS. 1961, 4p.
Order from CTT $8.00 CTT-61K113

Trans. of [Vsesoyuznyi] N[auchno]-I[ssledovatel'skii] K[ino]f[oto]i[nstitut]. Trudy (USSR) 1960, no. 35, p. 64-69.

DESCRIPTORS: Photography, *Photographic emulsions, Photographic films, Processing.

Grokhotov, V. A. and Meiklyar, P. V.
HEAT TREATMENT OF SILVER BROMIDE CRYSTALS IN GELATIN AND IN VACUUM. 1961, 8p.
Order from CTT $16.00 CTT-61K114

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1956, v. 1, no. 2, p. 89-97.

DESCRIPTORS: *Silver compounds, *Bromides, Crystals, Heat treatment, *Gelatins, Vacuum apparatus, Photographic emulsions.

Levi, S. M. and Smirnov, O. K.
ANTICOMET ACTION AND STRUCTURE OF WETTING AGENTS. 1961, 3p.
Order from CTT $6.00 CTT-61K115

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1961, v. 6, no. 1, p. 34-38.

DESCRIPTORS: *Wetting agents, Chemical reactions, Molecular structure

Levi, S. M.
MODERN CONCEPTS REGARDING THE RHEOLOGICAL PROPERTIES OF GELATIN SOLUTIONS AND PHOTOGRAPHIC EMULSIONS. 1961, 11p.
Order from CTT $22.00 CTT-61K108

Trans. of Uspekhi Nauchnoi Fotografii (USSR) 1960, v. 7, p. 137-149.

DESCRIPTORS: *Photographic emulsions, *Gelatins, Solutions, Plastic flow, Deformation.

Liorber, B. G., Shchelkina, E. P. and others.
ON CERTAIN MEROCYANINE-CARBOCYANINE DERIVATIVES OF IMIDAZOLIN-4-ONE. 1961, 13p.
Order from CTT $26.00 CTT-61K120

Trans. of [Vsesoyuznyi] N[auchno]-I[ssledovatel'skii] K[ino]f[oto]i[nstitut]. Trudy (USSR) 1960, no. 37, p. 5-16.

DESCRIPTORS: Dyes, Pigments, *Cyanines, Imides, Azoles.

Meiklyar, P. V., Rizaeva, I. S., and Ignat'eva, Z. P.
REDUCTION OF SILVER HALIDE IN THE PROCESS OF PREPARATION OF EMULSIONS. 1961, 6p.
Order from CTT $10.00 CTT-61K119

Trans. of [Vsesoyuznyi] N[auchno]-I[ssledovatel'skii] K[ino]f[oto]i[nstitut]. Trudy (USSR) 1960, no. 37, p. 50-57.

DESCRIPTORS: *Photographic emulsions, Preparation, *Silver compounds, *Halides, Reduction.

Novikov, I. A.
VARIATION IN THE DEGREE OF DISPERSION OF FINE-GRAIN EMULSIONS DURING CHEMICAL RIPENING. 1961, 4p.
Order from CTT $8.00 CTT-61K106

Trans. of Uspekhi Nauchnoi Fotografii (USSR) 1960, v. 7, p. 103-108.

DESCRIPTORS: *Photographic emulsions, Separation, Photographic film, Processing, Photographic chemicals

Sharlandzhiev, S. P. and Chel'tsov, V. S.
CHARACTERIZATION OF THE REACTIVITY OF NON-DIFFUSING COLOR COUPLERS BY THE ACTIVATION ENERGY OF THE COLOR DEVELOPMENT PROCESS. 1961, 7p.
Order from CTT $14.00 CTT-61K110

Trans. of [Vsesoyuznyi] N[auchno]-I[ssledovatel'skii] K[ino]f[oto]i[nstitut]. Trudy (USSR) 1959, no. 29, p. 23-32.

DESCRIPTORS: *Color photography, Photography, Color film, Processing, Energy, *Photographic chemicals, Chemical reactions, Photographic emulsions.

Stashonok, V. D. and Sviridov, V. V.
PHOTOGRAPHIC PROPERTIES OF GELATIN LAYERS CONTAINING SILVER ACETYLIDE. 1961, 6p.
Order from CTT $12.00 CTT-61K121

Trans. of Zhurnal Nauch[noi] i Priklad[noi] Fotografii i Kinematografii (USSR) 1961, v. 6, no. 3, p. 186-192.

DESCRIPTORS: *Photographic emulsions, *Gelatins, Silver ions, Photographic chemicals, Sensitivity.

Strel'nikova, A. P., Levkoev, I. I., and Kirillov, N. I.
INVESTIGATION OF THE FORMATION OF DYES IN BLACK-AND-WHITE DEVELOPMENT OF COLOR FILMS. 1961, 7p.
Order from CTT $14.00 CTT-61K116

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1961, v. 6, no. 1, p. 6-13.

DESCRIPTORS: *Color film, Processing, *Dyes, Photography.

Tsarev, B. A., Bogdanov, L. M. and others.
ON THE POSSIBILITY OF PARTIAL SUBSTITUTION OF GELATIN IN PHOTOGRAPHIC EMULSIONS BY SYNTHETIC POLYMERS. 1961, 4p.
Order from CTT $8.00 CTT-61C102

Trans. of Tekhnika Kino i Televideniya (USSR) 1960, v. 4, no. 8, p. 8-11.

DESCRIPTORS: *Photographic emulsions, *Gelatins, *Polymers, Tests.

Uvarova, V. M. and Myl'tseva, V. A.
SEARCH FOR WAYS OF IMPROVING THE STRUCTURAL-MECHANICAL PROPERTIES OF PHOTOGRAPHIC EMULSIONS FOR NUCLEAR RESEARCH, 1961, 11p.
Order from CTT $22.00 CTT-61K109

Trans. of Uspekhi Nauchnoi Fotografii (USSR) 1960, v. 7, p. 150-160.

DESCRIPTORS: *Photographic emulsions, Mechanical properties.

Yarinovskaya, A. L.
MOTION PICTURE LENSES AND THE SHARPNESS CRITERION. 1961, 5p.
Order from CTT $10.00 CTT-61K117

Trans. of Tekhnika Kino i Televideniya (USSR) 1961 [v. 5] no. 4, p. 29-34.

DESCRIPTORS: Motion picture cameras, Lenses, *Photographic lenses, Physical properties.

Zelikman, V. L. and Dmitrieva, V. A.
REVERSIBLE AGGREGATION OF ULTRAFINE-GRAIN EMULSIONS. 1961, 3p.
Order from CTT $6.00 CTT-61K112

Trans. of [Vsesoyuznyi] N[auchno]-I[ssledovatel'skii] K[ino]f[oto]I[nstitut]. Trudy (USSR) 1960, no. 35, p. 60-63.

DESCRIPTORS: Photography, *Photographic emulsions.

Zelikman, V. L., Dmitrieva, V. A., and Kondrat'eva, E. B.
SEDIMENTATION OF PHOTOGRAPHIC EMULSIONS USING INCLINED PLATES. 1961, 4p.
Order from CTT $8.00 CTT-61K111

Trans. of [Vsesoyuznyi] N[auchno]-I[ssledovatel'skii K[ino]f[oto]I[nstitut]. Trudy (USSR) 1961, no. 35, p. 54-59.

DESCRIPTORS: *Photographic emulsions, Sedimentation, Photographic plates.

Zimkin, E. A. and Paronik, S. I.
PROTEIN TYPE IMPURITIES IN PHOTOGRAPHIC GELATIN. 1961, 2p.
Order from CTT $4.00 CTT-61K107

Trans. of Uspekhi Nauchnoi Fotografii (USSR) 1960, v. 7, p. 134-136.

DESCRIPTORS: Photographic emulsions, *Gelatins, Proteins, Impurities.

Plastics

Bauer, W.
AGING OF PLASTICS FROM A TECHNICAL ASPECT. [1962] 8p.
Order from SLA $1.10 62-14293

Trans. of Kunststoffe (West Germany) 1961, v. 51, no. 3, p. 133-134.

DESCRIPTORS: *Plastics, *Age factors, Stresses, Mechanical properties.

Changes in plastics with time and the effects produced thereby are discussed. It is established that aging characteristics cannot be given as material values, but only as operational expectancy values connected with use for certain parts. (Author)

Popov, V. A., Nikolaev, I. N. and others.
PRODUCTION OF HEAT-RESISTANT POLYMER MATERIALS BY PYROLYSIS METHODS: FOAM COKES. 7 Nov 61, 3p. AID rept. 61-149; AD-267921.
Order from OTS or SLA $1.10 62-13764

Abstract trans. of Plasticheskie Massy (USSR) 1961, no. 9, p. 26-29.

DESCRIPTORS: *Heat resistant polymers, *Expanded plastics, Production, Pyrolysis, *Charcoal, Carbon black, Graphite, Volume, Electrical properties, Tensile properties, Dielectric properties, Stability, Decomposition, Deterioration.

The properties and user of "foam cokes" are summarized.

MATHEMATICS

PROBLEMS IN MATHEMATICS. 27 Sep 61 [16]p. JPRS: 8949.
Order from OTS or SLA $1.60 62-19467

Trans. of [Bulgarska Akademiya na Naukite]. Matematicheski Institut. Izvestiya, 1960, v. 4, no. 2, p. 57-62 and 75-78.

DESCRIPTORS: *Mathematics, *Non-linear differential equations, *Tensor analysis, *Mechanics, Machines, Synthesis, Theory.

Contents:
Concerning the differential equation $y'' + ax\,y^n = 0$, by Ivan Chobanoff and G. Paskaleff
Tensor forms of the basic equations of kinematic chains and mechanisms, by D. Mangeron and C. Dragan.

Anisimov, A. G.
NUMERICAL-GRAPHICAL METHOD OF SOLVING BOUNDARY PROBLEMS FOR SECOND ORDER ORDINARY DIFFERENTIAL EQUATIONS. [1960] 8p. 4 refs. MDF A-146.
Order from OTS $0.50 62-11355

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Matematika (USSR) 1959, no. 5(12), p. 40-47.

DESCRIPTORS: *Differential equations, Solutions, Numerical methods and procedures.

A method is proposed for solving differential equations with boundary conditions (linear boundary problems) $Ly = y'' + \phi(x)y = f(x)$, $y(x_0) = y_0$, and $y(x_n) = y_n$, where y_0 and y_n are prescribed numbers.

The recursion formulas

$$\xi_{i+1} = x_i - (12 + h^2 \phi_{i+1}) \cdot F_i$$

and

$$\eta_{i+1} = \eta_i - h\,[D(f_i) - \eta_i D(\phi_i)] \cdot F_i$$

and the condition $y(x_0) = y_0$ are used to calculate the coordinates of the auxiliary points $S_1, S_2, \ldots, S_n$, lying respectively on the chords $K_0K_1, K_1K_2, \ldots, K_{n-1}K_n$ of the desired integral curve of the problem or on the extensions of these chords. Afterwards the recursion formula $y_{i-1} = y_i + \frac{\eta_i - y_i}{x_i - \xi_i} h$ $(i = n, n-1, \ldots, 2)$ is used to find the approximate numerical solution $y_{n-1}, y_{n-2}, \ldots, y_1$ of the problem. Here $F_i = \frac{x_i - \xi_i}{(12 + h^2 \phi_{i-1}) - h(x_i - \xi_i) D(\phi_i)}$ and it is assumed that the points S_0 and K_0 coincide.

Gladkii, A. V., Rybakova, M. V., and Shed'ko, T. I.
AN OUTLINE OF A SEMANTIC LANGUAGE FOR TRANSCRIPTION OF MATHEMATICAL TEXTS.
Foreign Developments in Machine Translation and Information Processing, no. 87. 30 Mar 62 [28]p.
JPRS: 13254.
Order from OTS or SLA $2.60 62-23753

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 10, 18p.

DESCRIPTORS: *Mathematics, *Machine translation, *Language.

Iliev, Lyubomir.
THE STATUS AND NEEDS IN MATHEMATICAL SCIENCE IN BULGARIA. 7 June 61 [24]p.
JPRS: 8404.
Order from OTS or SLA $2.60 62-19347

Trans. of Bulgarska Akademiia na Naukite, Sofia. Spisanie, 1960, v. 5, no. 3, p. 3-23.

DESCRIPTORS: *Science, *Mathematics, Scientific personnel, Personnel, Training, Education, *Bulgaria.

Contents:
A. The development of mathematical science in Bulgaria prior to the issuance of the decree on further development in science in Bulgaria
B. Future tasks in the development of mathematical science in the spirit of the decree.

Kuz'min, E. N.
ON COMMUTATORS IN ELASTIC RINGS. [1961] 8p. 10 refs.
Order from MDF $5.00 62-19813

Trans. of Sibir[skii] Mate[maticheskii] Zh[urnal] (USSR) 1960, v. 1, no. 2, p. 198-204.

DESCRIPTORS: *Algebras, *Groups (Mathematics), *Matrix algebra, Algebra, *Operators (Mathematics), Topology.

Shklyarskii, D. O., Chentsov, N. N., and Yaglom, I. M.
THE USSR OLYMPIAD PROBLEM BOOK: SELECTED PROBLEMS AND THEOREMS OF ELEMENTARY MATHEMATICS, 3D REV. ED., tr. by John Maykovich. May 62, 462p.
Order from W. H. Freeman and Company, 660 Market St., San Francisco 4, Calif. $9.00

Trans. of [Izbrannye Zadachi i Teoremy Elementarnoi Matematiki] 3d rev. ed. [Moscow, 1959, 455p.].

DESCRIPTORS: *Mathematics, Algebra, Number theory, Trigonometry, Polynomials, Complex numbers, Inequalities, Sequences, Series.

Computing Devices

Gorobchuk, G. P.
A SHAFT-ANGLE-TO-DIGIT CONVERTER. 3 Oct 61 [4]p. MCL-1309/1+2; AD 265 715.
Order from OTS or SLA $1.10 61-28988

Unedited rough draft trans. from Byulleten' Izobretenii (USSR) 1960, no. 12 (USSR [patent appl.] announcement no. 641429/26, 16 Oct 59).

DESCRIPTORS: *Analog to digital converters, Design, *Disk recording systems, Disks, Materials, Radioactive Isotopes.

A shaft-angle-to-digit converter containing a disk with code cells and reading elements is described. For the purpose of simplifying the design, decreasing the dimensions, and increasing the reliability, the code cells of the disk are filled with a paste containing a radioactive isotope, while the reading elements are made in the form of metal plates connected to the inputs of amplifiers or crystal counters.

Tanasescu, Tudor, Manescu, Manea, and Nicolau, Edmond.
COMPUTERS IN PLANNING AND ACCOUNTING. 23 Dec 60 [16]p. 14 refs. JPRS: 6475.
Order from OTS or SLA $1.60 62-19432

Trans. of Automatica si Electronica (Rumania) 1960, v. 4, no. 4, p. 150-155.

DESCRIPTORS: Automation, *Digital computers, Computers, *Analog computers, Scheduling, Economics.

MECHANICS

Antonova, G. S.
INVESTIGATION OF THE TURBULENT CHARACTERISTICS OF A FREE ANISOTHERMAL STREAM AND AN OPEN FLAME TONGUE. 19 Oct 61 [19]p. 16 refs. MCL-1330; AD 265 726.
Order from OTS or SLA $1.60 62-13000

Unedited rough draft trans. of mono. Trudy Soveschaniya po Prikladnoi Gazovoi Dinamike, Alma-Ata, 23-26 Oct 56, p. 45-54.

DESCRIPTORS: *Turbulent flow, Hydrodynamics, *Gas flow, Flames, Boundary layer, Vibration, Laboratory equipment, Oscillographs, Vacuum tube amplifiers, Benzenes, Anemometers, Thermocouples, Electric bridges, Equations. Experimental data.

We established the regularity of turbulent motion for the example of a free anisothermal stream. We ascertained the similitude of the fluctuating components of the velocity vector in flow cross sections, the proportionality of their values to the mean velocity gradient, and also the proximity between the values of the longitudinal and transverse components of the fluctuating velocity vector. We revealed the equality of the correlation coefficients with the different cross sections of the stream and with its different initial parameters. All these data were obtained by means of the method developed for measuring the fluctuations of velocity and temperature with a hot-wire anemometer in an anisothermal flow. The hot-wire anemometer method was used for investigating a flow during burning. We obtained preliminary measurements of the fields of the mean and fluctuating values of the velocity in cross sections of an open flame tongue. The hypothesis of the sonic character of turbulence was partially confirmed by experiments. (Author)

Onyashvili, O. D.
CERTAIN DYNAMIC PROBLEMS OF THE THEORY OF SHELLS. [1959] 178p. 107 refs. MDF O-109.
Order from OTS $3.00 62-11592

Trans. of mono. [Nekotorye Dinamicheskie Zadachi Teorii Obolochek] Moscow, 1957, p. 3-[192].

DESCRIPTORS: *Structural shells, *Cylindrical bodies, Theory, Vibration, Stability, Load distribution, Test methods, Stresses, Numerical analysis, Calculus of variations, Earthquakes, Resistance.

This volume is devoted to investigations of the vibrations, dynamic stability and resistance-to-earthquake of thin shells, used primarily as roofs and ceilings in industrial and domestic buildings. The hypotheses and important relations of the engineering moment theory of shallow shells of V. Z. Vlasov are explained. The investigations reported were closely related to practical activities of the Construction Institute of the Georgian Academy of Sciences on the development and introduction of new structural shapes of the thin-walled shell type of monolithic or prefabricated reinforced concrete. The experience gained in the transition from plane construction to thin-walled shells gave a significant saving in metal and cement.

Sachenkov, A. V. and Vybornov, V. G.
THE STABILITY OF THE MOMENTLESS STATE OF MULTI-PLY ANISOTROPIC SHELLS. 13 Nov 61 [16]p. 7 refs. FTD-TT-61-133; AD-267 739.
Order from OTS or SLA $1.60 62-13573

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1960, no. 4, p. 61-71.

DESCRIPTORS: Stability, Moments, *Elastic shells, Deformation, Stresses, Surfaces, *Mathematical analysis, Differential equations, Mechanics.

Sedov, L. I.
ON THE BASIC PRINCIPLES OF THE MECHANICS OF A CONTINUOUS MEDIUM, tr. by George F. Hill. 6 Nov 61 [30]p. ARGMA Tran. nr. 62-61.
Order from OTS or SLA $2.60 62-13758

Trans. of mono. (lecture) given in the Assembly Hall, Moscow State U., 4 Jan 61.

DESCRIPTORS: *Continuous media, Mechanics, *Continuum mechanics, Plasma physics, Solids, Gases, Liquids, Plasticity, Creep, Polymers, Plastics.

Vlasov, V. Z.
THIN-WALLED ELASTIC BEAMS, 2D ED REV., tr. by Y. Schechtman. 1961, 493p. 290 refs. PL-480 Comm.
Order from OTS $5.00 61-11400

Trans. of mono. Tonkostennye Uprugie Sterzhni, 2d ed. rev., Moscow, 1959 [560p.].

DESCRIPTORS: *Beams, Cylindrical bodies, Elasticity, Deformation, Shear stresses, Stresses, Load distribution, Moments, Stability, Deflection, Girders, Torque, Vibration, Thermal stresses, Mathematical analysis, Differential equations, Structures.

The book expounds the general theory of thin-walled beams widely used in construction, ship building and aircraft engineering. A thin-walled beam which has in its natural (unloaded) condition the shape of a cylindrical shell or a prismatic hipped section is considered in this theory as a continuous spatial system composed of plates capable of bearing, in each point of the middle surface, not only axial (normal and shear) stresses but moments as well. The deformation of the beam is analyzed on the basis of the general and natural hypotheses of an inflexible section contour and absence of shear stresses in the middle surface, which constitute the basis for a new law of distribution of longitudinal stresses in the cross section. This law, called the law of sectorial areas and which includes the law of plane sections as a particular case, permits the computation of stresses in the most general cases of flexuraltorsional equalibrium of a beam. Problems in strength of materials, structural mechanics and applied elasticity (such as thin-walled beam-shells of open section consolidated by "bimomental" cross-ties; beams of closed section in which warping and deformation of the section contour are attended by shearing strain; solid beams; the bimomental theory of prestressed beams; the bimomental theory of thermal streses; the equilibrium of beam-shells under combined loading; the problem of spatial stability; vibration of thin-walled beams and the like) are solved.

Belotserkovskii, O. M.
FLOW PAST A CIRCULAR CYLINDER WITH A DETACHED SHOCK [1961] 7p. 5 refs. MDF B-131.
Order from OTS or SLA $1.10 62-23057

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 113, no. 3, p. 509-512.
Another trans. is available from OTS or SLA $1.10 as 61-15314, ARGMA Trans-113-60, 27 Dec 60 [7]p.

DESCRIPTORS: *Cylindrical bodies, Supersonics, Shock waves, *Supersonic flow, Mathematical analysis.

Methods are shown for constructing a picture of the pressure on the surface and beyond the body, a sonic line, characteristics, the shape and position of the shock wave, etc. The problem of the flow past a two- or three-dimensional body of arbitrary shape and axial symmetry with a detached shock is solved analogously.

Chelomei, V. N.
A STUDY OF PNEUMATIC AND HYDRAULIC SERVOMECHANISMS. 14 Dec 61 [18]p. 2 refs.
FTD-TT-61-107; AD-268 864.
Order from OTS or SLA $1.60 62-15403

Unedited rough draft trans. of Avtomaticheskoe Upravlenie i Vychislitel'naya Tekhnika (USSR) 1958 [v. 1] p. 166-181.

DESCRIPTORS: *Pneumatic servomechanisms, *Hydraulic servomechanisms, Servomechanisms, Servo systems, Control systems, Pressure, Differential equations, Partial differential equations, Mathematical analysis.

Pneumatic and hydraulic servomechanisms, with valve distribution used as steering mechanisms, are analyzed and compared.

Frankl', F. I. and Lanin, I. N.
A THEORETICAL EXAMPLE OF A SUBSONIC FLOW PAST A PROFILE WITH A LOCAL SUPERSONIC REGION TERMINATING IN A NORMAL SHOCK. 23 Jan 62 [18]p. 7 refs. FTD-TT-61-320; AD-270 765.
Order from OTS or SLA $1.60 62-15811

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1960, no. 4, p. 40-50.

DESCRIPTORS: *Subsonic flow, Supersonic flow, Supersonics, *Shock waves, Theory, Mathematical analysis, Partial differential equations, Solutions.

The example is set up in an explicit form, without solving any boundary-value problems, as the sum of certain particular solutions of the Tricomi equation.

Golubev, V. A.
THEORETICAL INVESTIGATION OF A TURBULENT PLANE PARALLEL STREAM AT HIGH TEMPERATURE WITH CALCULATION OF DISSOCIATION AND IONIZATION (Teoreticheskoe Issledovanie Turbulentnoi Poloskoparallel'noi Strui Vysokoi Temperatury s Uchetom Dissotsiatsii i Ionizatsii) tr. by L. G. Robbins. [1961] [15]p. AERDL T-209.
Order from OTS or SLA $1.60 62-13448

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961 [v. 4] no. 6, p. 42-50.

DESCRIPTORS: *Gas flow, *Turbulent flow, Turbulent boundary layer, Boundary layer, Temperature, Dissociation, Ionization, Gas ionization, Mathematical analysis, Differential equations, High temperature research, Theory.

Particular solutions are derived for differential equations of motion. The formulae derived on the basis of these solutions, in combination with the solution of an energy equation, permit one to compute the parameters of the stream and its boundaries. (Author)

Khaskind, M. D.
THREE DIMENSIONAL STREAMLINE FLOW AROUND SLENDER BODIES. [1961] 12p. 5 refs. MDF K-165.
Order from OTS or SLA $1.60 62-15919

Trans. of Prikl[adnaya] Mate[matika] Mekh[anika] (USSR) 1956, v. 20, p. 203-210.

DESCRIPTORS: *Fluid flow, *Wing-body configurations Motion, Velocity, Lift, *Potential theory.

Potential theory methods are used to formulate a singular integro-differential equation for a plane, cambered lifting line in a three-dimensional flow of an unbounded, weightless fluid. This equation is generalized by methods of linear wave theory, to the case of slender body motion in a heavy fluid. The plane in which the cambered lifting line under consideration lies is perpendicular to the flow plane. Use of potential-theoretic methods permits an equation to be obtained for the cambered lifting line; hence, those assumptions to which the derivation of this equation is related are explained. Solutions are given for this equation for a lifting line in the shape of half a ring, for small and large Froude numbers. Also, an approximate solution taking into account the Froude number is formulated for a vertical rectilinear lifting line completely submerged in a heavy fluid. (Author)

Oudart, A.
LIMITING STREAMLINES AT THE WALL FOR THE YAWED STRAIGHT WING OF INFINITE SPAN (Lignes de Courant Limites à la Paroi pour l'Aile Droite d'Envergure Infinie Dérapée) tr. by D. A. Sinclair. 1961, 18p. 5 refs. NRCC Technical Trans. 988.
Order from NRCC $1.00 NRCC C-3848

Trans. of mono. 50 Jahre Grenzschichtforschung, Brunswick, 1955, p. 101-111.

DESCRIPTORS: *Wings, *Yaw, *Fluid flow, Viscosity, *Laminar boundary layer, Boundary layer, Separation, Aerodynamics, Dynamics.

It is shown that for an incompressible viscous or non-viscous fluid the streamlines at the wall are approximately tangent to the flow attachment line. For the viscous fluid these streamlines are tangent to the laminar separation line, at least for practical purposes. Theoretically, the flow attachment line is an asymptote, and the same must hold true for the laminar separation line. (Author)

Hydrodynamics, Hydraulics, and Hydrostatics

Ornatskii, A. P. and Kichigin, A. M.
INVESTIGATION OF HYDRAULIC RESISTANCE IN THE CASE OF FLOW OF SUBCOOLED WATER IN A SMALL-DIAMETER TUBE WITH HEAT FLUXES. [1961] 9p. 2 refs.
Order from OTS or SLA $1.10 AEC-tr-4853

Trans. of Teploenergetika (USSR) 1961, v. 8, no. 8, p. 56-60.
Another translation is available from ATS $13.65 as ATS-26N55R [1961] 8p.

DESCRIPTORS: *Fluid flow, Water, Pipes, Resistance, Hydraulic systems, Heat.

Experimental results are reported for an investigation of the hydraulic resistance under conditions of forced movement flow of subcooled water in a 2-mm diameter tube over the range of mass flow rates from 5×10^3 to 30×10^3 kg/m^2·sec, subcooling from 50 to 200-220°C, pressures from 10 to 150 atm. (Author)

Ryzhik, V. M.
SUR LE MÉCANISME D'IMPREGNATION CAPILLAIRE D'UN MILIEU POREUX [Mechanism of Capillar Impregnation of a Porous Medium] tr. by Nedelko. 4 Oct 60 [12]p. 2 refs. CEA Trans. no. R 532 (text in French).
Order from OTS or SLA $1.60 61-15777

Trans. in French of Akad[emiya] Nauk SSSR. [Otdelenie Tekhnicheskikh Nauk]. Izvest[iya: Mekhanika i Mashinostroenie] 1959, no. 6, p. 151-153.

DESCRIPTORS: *Capillary tubes, Impregnation, Porosity, Liquids, Surface tension, Gases, Hydrodynamics.

METALLURGY

Aguet, E.
RESULTS OBTAINED FROM RUNNING TWO GAS TURBINE PLANTS IN BELGIAN METALLURGICAL WORKS. [1962] [11]p. 1 ref.
Order from SLA $1.60 62-14175

Trans. of Stahl und Eisen (West Germany) 1959, v. 79, no. 21, p. 1479-1483 (Verein Deutscher Eisenhüttenleute (West Germany). [Berichte]-280).
Another trans. is available from BISI £ 4 as BISI-1494 [1960].

DESCRIPTORS: *Gas turbines, *Metallurgy, Belgium.

For abstract see Technical Translations 3: 568, 1960.

Bruk, M. V.
DISTRIBUTION OF OXIDE FILMS IN CONTACT AREA DURING ULTRASONIC WELDING. Apr 62, 1600 words.
Order from HB $3.30 HB-5574

Trans. of #Avtomaticheskaya Svarka (USSR) 1962, v. 15, no. 3, p. 54-57.

DESCRIPTORS: *Aluminum alloys, *Welding, *Ultrasonics, Oxides.

Conn, William M.
APPROXIMATING EQUILIBRIUM CONDITIONS IN THE MOLTEN POOLS OF METAL AND SLAG IN ARC WELDING; EXAMPLE ALUMINA SILICA FLUXES. [1962] [18]p. 19 refs.
Order from SLA $1.60 62-14391

Trans. of Schweissen und Schneiden (West Germany) 1958, v. 10, no. 5, p. 174-180.
Another trans. is available from BISI £ 5 as BISI-1468 [1959].

DESCRIPTORS: *Arc welding, *Welding fluxes, Materials, Aluminum compounds, Oxides, Silicon compounds, Dioxides.

For abstract see Technical Translations 3: 169, 1960.

Ermolov, I. N.
ULTRASONIC INSPECTION OF WELDED JOINTS IN AS-CAST AND WELDED STRUCTURES (Ul'trazvukovoi Kontrol' Svarnykh Shvov Svarnolitykh Konstruktsii]. Feb 62, 3100 words.
Order from HB $9.30 HB-5136

Trans. of Svarochnoe Proizvodstvo (USSR) 1958, no. 11, p. 29-32.
Another trans. is available from LC or SLA mi$2.40, ph$3.30 as 60-17915, RTS-1265, May 60 [18]p.

DESCRIPTORS: *Steel castings, *Welds, *Ultrasonic radiation.

For abstract see Technical Translations 4: 224, 1960.

Heynert, Gerhard and Willems, Jakob.
THE REACTIONS OCCURRING IN THE BLAST FURNACE AS SEEN FROM THE KINETIC POINT OF VIEW. [1962] [20]p. 20 refs.
Order from SLA $1.60 62-14193

Trans. of Stahl und Eisen (West Germany) 1959, v. 79, no. 22, p. 1545-1554.
Another trans. is available from BISI £5 10s as BISI-1518 [1960].

DESCRIPTORS: *Blast furnaces, *Reaction kinetics, Operation, Deoxidation, Gas flow, Coke.

For Contents see Technical Translations 3: 602, 1960.

Hofmann, E. E.
VISCOUS BEHAVIOR OF SYNTHETIC SLAGS IN RELATION TO COMPOSITION AND TEMPERATURE (WITH DISCUSSION). [1962] [22]p. 19 refs.
Order from SLA $2.60 62-14401

Trans. of Stahl und Eisen (West Germany) 1959, v. 79, no. 12, p. 846-854.
Another trans. is available from BISI £5 as BISI-1471 [1959].

DESCRIPTORS: *Blast furnaces, Operation, *Slags, Viscosity.

For abstract see Technical Translations 3: 110, 1960.

Hohenberger, A.
DUST REMOVAL FROM ELECTRIC ARC FURNACES. Apr 62, 4600 words.
Order from HB $11.75 HB-5218

Trans. of Stahl und Eisen (West Germany) 1961, v. 81, no. 15, p. 1001-1005.

DESCRIPTORS: *Waste gases, Electric furnaces, Steel industry, *Disposal, Industrial equipment, Particles, Separation.

Hüttemann, P. and Mintrop, R.
BLAST FURNACE SMELTING TRIALS USING LIME COKE. Apr 62, 5300 words.
Order from HB $14.50 HB-5239

Trans. of Stahl und Eisen (West Germany) 1961, v. 81, no. 16, p. 1041-1047.

DESCRIPTORS: *Blast furnaces, *Smelting, *Coke, Calcium compounds, Oxides.

Löfblad, B. and Lindh, G.
DEVELOPMENT OF A WELDED CONNECTION BETWEEN FERRITIC AND AUSTENITIC SUPERHEATED TUBES FOR STEAM POWER PLANTS. [1959] 13p. 9 refs.
Order from SLA $1.60 62-10501

Trans. from International Institute of Welding. Annual Assembly, Vienna, 1958, 30 June. [Proceedings].
Another trans. is available from BISI £4 as BISI-1409 [1959].

DESCRIPTORS: *Steam power plants, *Welded joints, Production, Welding, Materials, Steel, Stresses, Rupture.

For abstract see Technical Translations 2: 730, 1959.

Lucas, Karl.
PROCESS AND APPARATUS FOR THE PRODUCTION OF POWDERED SULFUR. [1961] 8p.
Order from OTS or SLA $1.10 62-10708

Trans. of German patent 1,083,790, by Heinrich Koppers, appl. 31 Jan 59, pub. 23 June 60.

DESCRIPTORS: *Sulfur, *Powder metallurgy, Production, Powder metals.

A process is proposed for the production of powdered sulfur with a better than 50% yield of particles under 0.1 mm granular size through the spraying of melted sulfur by means of a pressure nozzle. The liquid sulfur to be sprayed is atomized at a temperature only a little above its melting point, preferably at a temperature between 118-124°C, with the formation of a spray cone in a chamber opened only in the direction of the current of the atomizing cone, which chamber, at the place of admission of the sulfur to the adjoining part, is maintained, by heat, at about the temperature of admission of the sulfur, so that the finely divided sulfur, after leaving the heated part of the chamber, is kept in suspension until complete solidification into droplets of chiefly u-sulfur; and, finally, the solid sulfur is flung against a solid wall surface by means of a conveyor gas, for example, air.

Lueg, Werner and Pawelski, Oskar.
THE HYDRAULIC 25-TON BAR DRAWING BENCH OF THE MAXPLANCK-INSTITUTE FOR IRON RESEARCH AND ITS POSSIBILITIES OF USE. [1962] [12]p. 10 refs.
Order from SLA $1.60 62-14176

Trans. of Stahl und Eisen (West Germany) 1958, v. 78, no. 25, p. 1812-1815 (Max Planck Institut fur Eisenforschung (West Germany). [Communication]-793; Verein Deutscher Eisenhuttenleute (West Germany). [Berichte]-28).
Another trans. is available from BISI £4 as BISI-1476 [1960].

DESCRIPTORS: *Hydraulic systems, Machines, Operation, *Iron, Processing.

For abstract see Technical Translations 3: 602, 1960.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
METALWORKING. PART II: MACHINE AND CUTTING TOOLS (SUPPLEMENT TO SB-461). Feb 62, 17p. 191 refs. OTS Selective Bibliography SB-490.
Order from OTS SB-490 $0.10 OTS SB-490

DESCRIPTORS: *Metals, *Machine tools, *Cutting tools, Machining, Automatic, Programming, *Bibliography, Ceramic materials, Refractory materials, Life expectancy, Grinders.

Lists 191 foreign and domestic reports added to the OTS collection during the period April 1961 to February 1962. Covers research on numerically controlled and automatically programmed tool systems (APT); automatic data preparation for tool systems;

ultra high speed and high temperature machining; ultrasonic grinding; ceramic tools; machining of refractory metals; tool wear and life expectancy among other subjects.

Pines, B. Ya. and Chaikovskii, E. F.
X-RAY DIFFRACTION DETERMINATION OF THE HETERODIFFUSION COEFFICIENTS IN ALLOYS FORMING SOLID SUBSTITUTION SOLUTIONS. [1961] 7p. 2 refs. MDF P-166.
Order from OTS $0.50 62-11268

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1956, v. 111, no. 6, p. 1234-1237.

DESCRIPTORS: *Alloys, *X-ray diffraction analysis, *Phase studies, *Diffusion, Measurement, Microstructure, Crystals, Lattices.

Plöger, Ulrich.
DEVELOPMENT AND APPLICATION OF A HEAT RADIATION MEASURING INSTRUMENT FOR THE ANALYTICAL EVALUATION OF TEMPERATURE CONDITIONS. [1962] 9p.
Order from SLA $1.10 62-14386

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1959, v. 30, no. 8, p. 473-476 (Verein Deutscher Eisenhüttenleute (West Germany) [Berichte]-478).
Another trans. is available from BISI £3 5s as BISI-1463 [1959].

DESCRIPTORS: *Iron industry, *Heat, Measurement, Physiology.

For abstract see Technical Translations 3: 111, 1960.

Polin, I. V. and Urt'ev.
CERTAIN PROBLEMS OF THE TECHNOLOGY OF THE MELTING OF TITANIUM IN VACUUM ARC FURNACES. 28 Aug 61 [36]p. (13 figs. 1 table omitted). MCL-1011/1; AD-265 667.
Order from OTS or SLA $3.60 62-13176

Unedited rough draft trans. of Metallurgiya: Sbornik Statei (USSR) 1959, v. 2, p. 236-250.

DESCRIPTORS: Titanium, *Titanium alloys, *Melting, Vacuum furnaces, Electric arcs, Gases, Chemical analysis, Hydrogen, Carbon compounds, Monoxides, Nitrogen, Oxygen.

A study is made of the change of composition of titanium metal when remelted by the vacuum arc and cast in water cooled molds.

Porkert, O.
PRESENT POSITION OF LINING PRACTICE IN LARGE CAPACITY ARC-FURNACES IN AMERICA. Mar 62.
Order from BISI £1 BISI-2647

Trans. of Stahl und Eisen (West Germany) 1961, v. 81, 26 Oct, p. 1472-1473.

DESCRIPTORS: *Combustion chamber liners, *Electric arcs, *Electric furnaces.

Rothmann, H. and Others.
X-RAY FLUORESCENCE SPECTROMETRIC DETERMINATION OF TANTALUM AND COLUMBIUM AND SOME COMPANION ELEMENTS IN TANTALUM AND COLUMBIUM-CONTAINING MATERIALS. Apr 62, 4400 words.
Order from HB $11.50 HB-5558

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1962, v. 33, no. 1, p. 17-22.

DESCRIPTORS: *Tantalum, **Niobium, Determination, X-ray spectroscopy, Fluorescence.

Weber, Karl-Heinz.
RING ROLLING AND THE CONSTRUCTION OF RING MILLS. [1962] [29]p. 3 refs.
Order from SLA $2.60 62-14172

Trans. of Stahl und Eisen (West Germany) 1959, v. 79, no. 26, p. 1912-1923 (Verein Deutscher Eisenhüttenleute (West Germany). [Berichte]-25.
Another trans. is available from BISI £7 15s as BISI-1555 [1960].

DESCRIPTORS: *Rings, Production, *Castings, *Liquid metals, Viscosity.

For abstract see Technical Translations 3: 604, 1960.

Ferrous Metals

Druzhinin, V. P., Evtiev, D. P., and Katomin, B. N.
THE EFFECT OF MOULD DESIGN ON CRACK FORMATION IN CONTINUOUSLY CAST BILLETS. Mar 62.
Order from BISI £3 5s BISI-2654

Trans. of #Metallurg (USSR) 1961 [v. 6] Dec, p. 12-15.

DESCRIPTORS: *Cast steel, *Fracture (Mechanics), *Molding, Design, Steel.

Gentiu, I.
SURFACE ALLOYING AND CLADDING BY CASTING. Apr 62, 3900 words.
Order from HB $9.80 HB-5373

Trans. of Metalurgia si Constructia de Masini (Rumania) 1960, v. 12, no. 5, p. 390-395.

DESCRIPTORS: *Steel castings, *Iron castings, Surfaces, Alloys, Microstructure, Metal coatings.

Gurevich, Ya. B. and Neimark, V. E.
MANUFACTURE OF SEAMLESS TUBES FROM VACUUM-CAST HOLLOW TUBE BLANKS (Izgotovlenie Besshovnykh Trub iz Litykh Gil'z, Poluchennykh Metodom Vakuum-Kristallizatsii). Apr 62, 1800 words.
Order from HB $4.80 HB-4263

Trans. of Stal' (USSR) 1958, v. 18, no. 5, p. 446-448.

DESCRIPTORS: *Steel tubing, Rolling mills, Production, Vacuum apparatus.

Jeníček, L.
RÖNTGENMONOCHROMATOR ZUR QUANTITATIVEN BESTIMMUNG VON GEFÜGEBESTANDTEILEN (X-ray Monochromator for Quantitative Determination of Structural Constituents) 9p. (text in German).
Order from T.I.B. $1.55

Trans. of Hutnicke Listy (Czechoslovakia) 1957, v. 12 no. 4, p. 299-302.

DESCRIPTORS: *X-ray spectroscopy, *Steel, Austenite, Martensite.

Kasatkin, B. S.
THE FAILURE MECHANISM IN SPECIMENS WITH STANDARD NOTCHES UNDER BENDING BY IMPACT (Mekhanizm Razrusheniya Obraztsov so Standartnym Nadrezom pri Udarnom Izgibe). June 61 [14]p. 5 refs. RTS 1821.
Order from OTS or SLA $1.60 61-19910

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1955, no. 7, p. 75-83.

DESCRIPTORS: *Steel, Fracture (Mechanics), Deformation, Stresses, Temperature, Carbon, Plasticity, Mechanical properties, Metallurgical analysis, Tests, Theory.

Kravchenko, V.
MECHANICAL PROPERTIES OF SEAMLESS TUBES IN LOW CARBON STEELS. [1962] [9]p.
Order from SLA $1.10 62-14195

Trans. of Stahl und Eisen (West Germany) 1959 [v. 79] 26 Nov, p. 1801-1803.
Another trans. is available from BISI £ 1 15s as BISI-1630, 1960.

DESCRIPTORS: *Steel tubing, Mechanical properties, Manufacturing methods, Steel, Pipes.

For abstract see Technical Translations 3: 679, 1960.

Leiris, H. de and Frappier, E.
THE RELATION BETWEEN THE DISTANCE OF AN INCLUSION FROM THE SURFACE AND ITS EFFECT ON FATIGUE CRACKING. [1962] [26]p. 11 refs.
Order from SLA $2.60 62-14372

Trans. of Revue de Métallurgie (France) 1959, v. 56, no. 1, p. 11-24.
Another trans. is available from BISI £ 6 as BISI-1263 [1959].

DESCRIPTORS: *Steel, Impurities, Surfaces, Stresses, *Fatigue (Mechanics).

For abstract see Technical Translations 3: 115, 1960.

Mes'kin, V. S. [Mishkevich, R. I.] and others.
KINETICS OF PRECIPITATION HARDENING OF ANNEALED TECHNICALLY PURE IRON. Feb 62.
Order from HB $2.50 HB-5310

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 2-6.

DESCRIPTORS: *Iron, Annealing, Hardening, Precipitation, Reaction kinetics.

Mirkin, L. I.
VARIATION IN DENSITY OF LATTICE DEFECTS (DISLOCATIONS) IN TECHNICALLY PURE IRON DURING QUENCHING AND TEMPERING. Apr 62, 600 words.
Order from HB $2.20 HB-5131

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 1, p. 158-159.

DESCRIPTORS: *Iron, Steel, *Dislocations.

Molcik, Marian and Klesnil, Mirko.
THE USE OF ELECTRON MICROSCOPY FOR THE STUDY OF KINETIC PHENOMENA IN PREVIOUSLY SELECTED AREAS. [1962] [8]p. 7 refs.
Order from SLA $1.10 62-14168

Trans. of Hutnicke Listy (Czechoslovakia) 1959, v. 14, no. 8, p. 688-692.
Another trans. is available from BISI £ 5 15s as BISI-1510, 1960.

DESCRIPTORS: *Electron microscopy, *Steel, Test equipment, Fatigue (Mechanics), Rupture.

For abstract see Technical Translations 3: 320, 1960.

Veh, P. O.
PRESENT POSSIBILITIES OF LOW-SCALE AND SCALE-FREE HEATING OF STEEL FOR HOT WORKING. [1962] 10p.
Order from SLA $1.10 62-14179

Trans. of Industrie Anzeiger (West Germany) 1959, v. 81, no. 1, p. 410-412.
Another trans. is available from BISI £ 4 as BISI-1625 [1960].

DESCRIPTORS: *Steel, *Heat treatment.

For abstract see Technical Translations 3: 608, 1960.

Zhukovskii, V. S.
DISTRIBUTION OF STRAINS AND STRESSES IN FLAT NOTCHED BARS ASSOCIATED WITH A THREE-DIMENSIONAL STRESSED STATE. 25 Apr 61 [26]p. (14 figs. omitted) 13 refs. MCL-610/1; AD-258 816.
Order from OTS or SLA $2.60 61-27008

Unedited rough draft trans. of Problemy Prochnosti v Mashinostroenii (USSR) 1959, no. 2, p. 54-71.

DESCRIPTORS: *Steel, Deformation, Stresses, Test methods, Tensile properties, Metal plates, Sheets, *Elasticity, *Plasticity, Thickness, Load distribution, Fracture (Mechanics), Theory, Mechanical properties.

The marking method was applied and developed to measure deformations at stress concentration in a notched specimen. Deformation was experimentally investigated up to the fracture of plane, deeply notched elongated bars of different thickness made of 45 steel at a stress concentration coefficient in the elastic region of $K = 4.86$. It was shown that a state of plane deformation in the case under investigation is reached in the first approximation, when the thickness of the specimen is greater than the width of the narrow cross-section only by a factor of 2.5 to 3; it was further shown that the resistance to deformation and strength of the specimen increase during the transition from a state of plane stress to plane deformation. Nevertheless, even in the latter case, the plastic deformation in the bottom of the notch, hardening and increase of the radius in the stage preceding fracture, are of considerable magnitude. On the basis of using the dimensions of elastic and plastic zones of the experimental surface of fracture and approximate solution of the corresponding elastoplastic problem, volumetric curves of stresses in the narrow cross-section of a bar of considerable thickness were plotted during elastoplastic deformation. (Author)

Ziegler, R. and Gerstner, R.
THE VELOCITY OF SOUND AS CHARACTERISTIC VALUE OF THE QUALITY OF CAST IRON. [1962] [21]p. 9 refs.
Order from SLA $2.60 62-14192

Trans. of International Foundry Congress (no. 24) 1957. [Proceedings] no. 6, p. 133-157.
Another trans. is available from BISI £4 15s as BISI-1496 [1960].

DESCRIPTORS: *Cast iron, *Sound, *Velocity, *Ultrasonic radiation, Castings, Manufacturing methods.

For abstract see Technical Translations 3: 608, 1960.

Structural Metallurgy and Corrosion

Berg, S.
THE MOST COMMON TYPES OF CORROSION IN STAINLESS STEELS. [1962] [21]p.
Order from SLA $2.60 62-14520

Trans. of Chemische Rundschau (Switzerland) 1959, v. 12, no. 2, suppl. 2, p. 185-189.
Another trans. is available from BISI £4 10s as BISI-1662 [1960].

DESCRIPTORS: *Stainless steel, *Corrosion, Corrosion resistant alloys, Corrosion research, Corrosion inhibition, Paints, *Cathodic protection.

Palatnik, L. S. and Boiko, B. T.
ELECTRON DIFFRACTION METHOD OF PHASE ANALYSIS BY THE SUPERPOSITION METHOD. [1960] 3p. 2 refs. MDF P-144.
Order from OTS $0.50 62-11514

Trans. of Fiz[ika] Met[allov] i Metall[ovedenie] (USSR) 1959, v. 8, no. 2, p. 318-320.

DESCRIPTORS: *Metals, *Electron diffraction analysis, Oxidation, Metal films.

The method described permits superposition electron diffraction patterns to be obtained from either two different films or from one film.

Pfefferkorn, G.
ELECTRON MICROSCOPE INVESTIGATION OF THE STRUCTURE OF METAL CORROSION LAYERS AND ADHESIVE DEPOSITS. Sep 59 [19]p. 14 refs.
Order from SLA $1.60 62-14396

Trans. of Vereinigung der Grosskesselbesitzer. Mitteilungen (West Germany) 1958, no. 57, p. 375-381.
Another trans. is available from BISI £5 5s as BISI-1448, 1959.

DESCRIPTORS: *Metals, *Corrosion *Electron microscopes, Corrosion research.

For abstract see Technical Translations 3: 258, 1960.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

ATOMIC ENERGY, 1961, VOLS. 10-11: SELECTED ARTICLES FROM FEB-NOV ISSUES. 20 Feb 62, 87p. 91 refs. JPRS: 12578.
Order from OTS $2.25 62-11178

Trans. of Atomnaya Energiya (USSR) 1961, v. 10 [no. 2] p. 158-160, 262-264; [no. 3] p. 264-265; [no. 5] p. 508-513; v. 11 [no. 2] p. 184-185; [no. 3] p. 251-255; [no. 4] p. 395-399; [no. 5] p. 442-447.

DESCRIPTORS: *Atomic energy, Literature, Fast neutrons, Neutrons, Neutron capture, Propagation, Nuclear structure, Neutron capture gamma rays, Neutron cross sections, Iodine, Nickel, Iron, Manganese, Copper, Barium, Thorium, Uranium, Lead, Sodium, Cadmium, Tungsten, Radioactive isotopes, Reactor fuels, Materials, Radiation damage, Neutron flux density, Reactor shielding materials, Thermal

neutrons, Neutron scattering, Differential cross sections, Elastic scattering, Inelastic scattering, Fission neutrons, Nuclei.

Contents:
Measurement of the radiative capture cross section of fast neutrons by I^{127}, by Yu. Ya. Stavisskii, V. A. Tolstikov, and V. N. Kononov
Theory of effective cross sections of heavy nuclei in the region of partial overlap of neutron resonances, by A. A. Luk'yanov and V. V. Orlov
Fast neutron capture cross sections for niobium, nickel, and iron, by Yu. Ya. Stavisskii and A. V. Shapar'
Radiative capture sections of neutrons with energies of 0.03--2 Mev by Ma^{55}, Cu^{65}, Ba^{138}, and Th^{232} isotopes, by Yu. Ya. Stavisskii and V. A. Tolstikov
Passage of 0.5 and 1.0 Mev neutrons through water and a mixture of water with heavy component, by V. I. Kukhtevich and B. I. Sinitsyn
Calculation of neutron cross sections of tungsten in the optical model of the nucleus, by V. A. Tolstikov, V. Ye. Kolesov, and V. S. Stavinskii
Magnitude of the fast neutron flux determining radiation damage of materials, by N. N. Ponomarev-Stepnoi
Spatial distribution of fast fission neutrons in iron, by V. P. Mashkovich and S. G. Tsypin
Elastic scattering of 15-Mev neutrons by copper, lead and U^{238} nuclei, by V. Ya. Guzhovskii
Measurement of the cross section for the inelastic interaction of 13--20 Mev neutrons with certain isotopes, by Yu. G. Degtyarev and V. G. Nadtochnyi
Inelastic scattering of 14-Mev neutrons on nuclei of sodium, iron, nickel, and lead, by B. I. Sukhanov and V. G. Rukavishnikov
Cross sections in inelastic interaction of fission-spectrum neutrons, by G. N. Lovchikova and O. A. Sal'nikov
Effect of the resonance structure of cross sections on the propagation of fast neutrons in iron, by N. N. Nikolaev, V. V. Filippov, and I. I. Bondarenko.

DECREE ON THE STATUTE OF THE CENTRAL INSTITUTE FOR NUCLEAR PHYSICS (PUB. 15 NOV 60). 2 Mar 61 [4]p. JPRS: 6855.
Order from OTS or SLA $1.10 62-19436

Trans. of Gezetzblatt der Deutschen Demokratischen Republik (East Germany) 1960, pt. III, no. 7, p. 46-47.

DESCRIPTORS: *Nuclear physics, Control, East Germany.

DEVELOPMENT OF ATOMIC ENERGY AND ARMAMENTS INDUSTRY IN UAR. 22 May 61 [12]p. JPRS: 8305.
Order from OTS or SLA $1.60 62-19227

Trans. from Lamerhav (Israel) 1961, 3 Mar; Yedioth Hayom (Israel) 1961, v. 25, 2 Feb, p. 2 and no. 46, p. 1.

DESCRIPTORS: Egypt, *Atomic energy engineering, *Nuclear physics, *Radiological warfare, Atomic bombs, Armament, Weapons, Warfare, Israel.

Contents:
Information on development of atomic energy, by Eli'ezer Ben-Mosheh
What is the state of Egyptian atomic research, by Uri Gedaljahu
Who is building up the are industry of the UAR.

Emel'yanov, V. S.
NUCLEAR FUSION (Yaderny Syntesis) tr. by D. A. Nimidoff. Oct 61, 15p.
Order from OTS or SLA $1.60 UCRL Trans-742

Trans. of Nauka i Zhizn' (USSR) 1961, v. 28, no. 7, p. 22-26.

DESCRIPTORS: *Nuclear energy, *Fission products, *Thermonuclear reactions, Radioactive isotopes, Nuclear reactions.

The difficulties of nuclear fusion are discussed in a general (nontechnical) manner.

Levin, P. I.
SYNTHÈSE DU NITROMETHANE MARQUÉ PAR LE CARBONE RADIOACTIF [Sintez Nitrometana, Mechenogo Radioaktivnym Uglerodom] [Synthesis of Nitromethane Labeled by Radioactive Carbon] tr. by B. de Trezvinsky. 29 Dec 59 [6]p. CEA Trans. no. R 795 (text in French).
Order from OTS or SLA $1.10 61-23771

Trans. in French of #Akad[emiya] Nauk SSSR. [Otdelenie Khimicheskikh Nauk]. Izvest[iya] 1958, no. 11, p. 1388-1389.

DESCRIPTORS: *Methanes, *Nitro radicals, Synthesis, *Labeled substances, *Carbon, Radioactive isotopes, Acetic acids, Radioactivity.

The synthesis of $C^{14}H_3NO_2$ was carried out according to the scheme: $C^{14}H_3COOH + Cl_2 \rightarrow C^{14}H_2ClCOOH$; $C^{14}H_2ClCOOH + NaOH \rightarrow C^{14}H_2ClCOONa + H_2O$; $C^{14}H_2ClCOONa + NaNO_2 \rightarrow C^{14}H_2NO_2COONa + NaCl$; $C^{14}H_2NO_2COONa + H_2O \rightarrow C^{14}H_3NO_2 + NaHCO_3$. The specific activity of nitro-methane was computed by means of a nomograph, which had been set up with respect to the electron absorption by the precipitate $BaCO_3$, according to its thickness. The results of the determination of the specific activity are tabulated. The yield of nitro-methane from acetic acid corresponds to the total radioactivity of the nitro-methane obtained.

Nishiwaki, Yasushi.
ON THE METHOD OF ESTIMATION OF THE POPULATION DOSE, POPULATION, AND SURFACE AREA COVERED BY THE DIFFUSION OF RADIOACTIVE CLOUDS. Aug 61, 23p. 8 refs.
Order from OTS $0.50 AEC-tr-4463

Trans. of Nihon Genshiryoku Gakkaishi (Japan) 1959, v. 1, no. 1, p. 1-8.

DESCRIPTORS: *Population, *Dose rate, Surface area, Radioactivity, Gas diffusion, Density, *Radioactive fall-out, Clouds.

Zeman, A. and Cermak, V.
THE CONCENTRATION OF ISOTOPE N^{15} BY A CHEMICAL EXCHANGE REACTION. 10 June 60, 8p. (2 refs omitted). JPRS: 2720.
Order from OTS or SLA $1.10 60-11678

Trans. of Chemicke Listy (Czechoslovakia) 1957, v. 51, no. 5, p. 818-822.

DESCRIPTORS: *Nitrogen, *Radioactive isotopes, Isotopes, Labeled substances, Ammonia, Ammonium radicals, Ions, *Exchange reactions, Chemical equilibrium, Towers(Chemistry), Construction, Operation, Mass spectroscopy.

The construction and operation are described of a column for the concentration of N^{15} by a chemical exchange reaction between ammonia and ammonium ions. The N^{15} content was increased to 11.4% by using a packing of glass cloth in a single-column apparatus. (Author)

Elementary Particles

Evseev, V. S., Komarov, V. I. and others.
ASYMMETRY IN THE ANGULAR DISTRIBUTION OF NEUTRONS DURING THE μ-MESON CAPTURE IN CALCIUM, tr. by Marie Kassatkin. Nov 61, 32p. 23 refs.
Order from OTS or SLA $3.60 UCRL Trans-759

Trans. of Joint Institute for Nuclear Research (USSR) Rept. P-759, 1961, 32p.

DESCRIPTORS: Calcium, Protons, *Meson capture, *Neutrons, Detection, Parity, Nuclear reactions, Mesons, Polarization.

The asymmetry coefficient $\tilde{\alpha}$ in the angular distribution of emitted neutrons was determined during the capture of polarized μ-mesons in calcium. The value $\tilde{\alpha} = -0.93 \pm 0.33$ which was obtained is considerably greater than the most probable theoretical value ($\tilde{\alpha}_T$ 0.41) calculated by M. K. Akimova et al. (Zhur. Eksptl. i Teoret. Fiz. 39: 1806, 1960). The great negative value of $\tilde{\alpha}$ confirms the parity nonconservation during the capture of the μ-meson by the proton and indicates a high contribution of the pseudoscalar interaction variant. The sign of the relation of constants g_P/g_A is positive.

Illes, Ferenc.
INVESTIGATION OF THE RUTHERFORD DISPERSION OF ALPHA PARTICLES ON ATOMIC NUCLEI (Alfa-reszek Rutherford Szorodasanak Vizsgalata Atommagokon). 8 Mar 61 [14]p. 11 refs. JPRS: 7905.
Order from OTS or SLA $1.60 62-19421

Trans. of Fizikai Szemle (Hungary) 1960, v. 10, no. 11, p. 348-352.

DESCRIPTORS: Thorium compounds, Carbides, *Alpha particles, Scattering, Atoms, Silver, Gold, Aluminum Nuclei, Foils, Scintillation counters, Vacuum systems Collimators.

The angle and thickness dependent parts of Rutherford's formula are valid for the dispersion of high-energy ThC alpha particles on silver, gold, and aluminum nuclei. The angular distribution of dispersion, in the case of Ag, is that described by theory, while in using Al, a considerable deviation may be observed even at small dispersion angles; this is attributed to nuclear forces. (Author)

Instruments and Installations

Ab, E. A., Andrianov, G. M. and others.
A PORTABLE NEUTRON GENERATING TUBE USING ION ACCELERATION, tr. by Richard B. Crawford. [1961] 5p.
Order from OTS or SLA $1.10 UCRL Trans-704

Trans. of Pribory i Tekhnika Eksperimenta (USSR) 1961, v. 6, no. 1, p. 129.

DESCRIPTORS: Mobile, *Neutrons, *Generators, Particle accelerators, Ion accelerators, Miniature electronic equipment, Well logging.

A portable miniaturized neutron generating test instrument capable of operation in well-logging equipment is described. Neutrons are obtained by a D-T reaction. The accelerated D^4 ions bombard a standard zirconium deuteride target. A system of gettering reservoirs and pumps is used to maintain optimum pressure in the tube. The basic characteristics of a model are: length, 350-400 mm; diam, 35-40mm; weight 500 gm; permissible external pressure, up to 15 atm; reservoir heating current, .3 to .8 amp; ion gun anode potential, 400-1000 v; magnetic field strength, 600 oersteds; usual accelerating voltage, 70-110 kv. The neutron output, determined by comparison of the counting rate during tube operation vs. the counting rate from a Po-Be source, with a target current of 80 μa and a voltage of 110 kv amounted to 450 curies $\pm$ 30%.

Kurashov, A. A., Linev, A. F. and others.
MULTI-CHANNEL TIME ANALYZER IN THE NANOSECOND RANGE. [1961] [12]p. 5 refs.
Order from OTS or SLA $1.60 AEC-tr-4694

Trans. of mono. Mnogokanal'nyi Vremennoi Analizator Nanosekundnogo Diapazona, Moscow, 1960 [15p.].

DESCRIPTORS: *Fast neutrons, *Gamma ray spectrometers, *Timing circuits, Time lag theory, Pulse height analyzers, Pulse generators, Scintillation counters.

The circuitry of a time analyzer based on the principle of "vernier" is described. The analyzer is used as a time-of-flight spectrometer for fast neutrons. The resolving time of the spectrometer is 2.5 nanoseconds. The channel width of the analyzer is 0.83 nanoseconds; the stability of the channel width of the analyzer is no worse than 1%. The recording system of the pulse-height analyzer ELA-2 is used with a number print-out having 256 channels, each channel having a capacity for 2^{16} pulses. (Author)

NUCLEAR ENERGY IN YUGOSLAVIA: SELECTED TRANSLATIONS. 11 Aug 61 [17]p. (6 figs. omitted). JPRS: 8709.
Order from OTS or SLA $1.60 62-19478

Trans. of Tesla (Yugoslavia) 1961, v. 8, no. 1, p. 2-6 and 51; Globus (Yugoslavia) 1961, no. 90, p. 16-19.

DESCRIPTORS: *Nuclear energy, *Nuclear engineering, *Radioactive isotopes, Production, *Yugoslavia.

Contents:
Nuclear energy, herald of the new industrial revolution, by Slobodan Nakicenovic
The production of radioisotopes in Yugoslavia
Atomic friend, by Z. G.

SOVIET NUCLEAR INSTRUMENTATION AND CONTROL FOR PROPULSION. Monthly rept. no. 9 for 10 Sep-10 Nov 61 on AID Work Assignment no. 16c. 11 Dec 61 [18]p. 17 refs. AID rept. 61-152; AD-269 792.
Order from OTS or SLA $1.60 62-15421

DESCRIPTORS: *Gamma counters, Scintillation counters, Design, Gas flow, Measurement, Flowmeters, *Heterogeneous reactors, Nuclear reactions, Reactor reactivity, Critical assemblies, Reactor theory, Nuclear power plants, *Fuel elements, Radioactive waste, Low pressure research, *Pneumatic servomechanisms, Automatic, Control systems, *Liquid metals, Heat transfer, Turbulent flow, Fluid flow, Pipes.

Contents:
Detectors
Control components: pneumatic
Miscellaneous related subjects.

Agena, Helmut H.
ELECTROMAGNETIC PUMPS FOR LIQUID METALS (Elektromagnetische Pumpen für Flüssige Metalle). [1962] [29]p. (foreign text included) 24 refs.
Order from SLA $2.60 62-14502

Trans. of Atomkernenergie (West Germany) 1958, v. 3, no. 7, p. 249-255.

DESCRIPTORS: *Liquid metals, *Electromagnetic pumps, Nuclear power plants, Atomic energy engineering.

The author gives a survey on electromagnetic pumps, which are little known in Germany and may be of some interest there for nuclear power purposes. Several types are described and the difference of conduction and induction pumps shown by means of simple considerations. The range of power of these pumps is reported and a short view of problems of materials given. (Author)

Klenin, A.
ISOTOPES OF THE AZERBAIDZHAN (Izotopy Azerbaidzhana). 3 May 61 [3]p. MCL-902/1.
Order from OTS or SLA $1.10 61-27326

Unedited rough draft trans. from Bakinskii Rabochii (USSR) 1961, 7 Feb, p. 3, cols. 1-2.

DESCRIPTORS: Petroleum, Processing, Petroleum industry, Nuclear engineering, *Radioactive isotopes.

A special booth in a fair is described. The booth is devoted to methods of using isotopes in exploratory functions of the Azerbaydzhan petroleum workers.

Krulikovskii, B. K.
ALKALI METAL SOURCE OF IONS (Istochnik Ionov Shchelochnykh Metallov). 11 Oct 60 [3]p. MCL-199.
Order from OTS or SLA $1.10 61-19552

Unedited rough draft trans. of [Kiev U.]. Naukovi Povidomlennya, Fizyka (USSR) 1956, no. 1, p. 11-12.

DESCRIPTORS: *Alkali metals, *Ion sources.

The operation of the source is based on thermoionization of alkali metal atoms on a highly heated surface of a metal with greater work function. In contrast to the existing constructions of sources, based on the same phenomenon, the "raw material" for the atoms of the alkali elements is not their chemical compound but alloys, previously prepared under favorable vacuum conditions. (Extract)

Magnusson, Torsten.
DESIGN AND EFFECTS OF ATOMIC WEAPONS. 22 May 61 [31]p. 15 refs. JPRS: 8295.
Order from OTS or SLA $3.60 62-19410

Trans. of Kosmos; Fysiska Uppsatser (Sweden) 1956, v. 34, p. 180-208.

DESCRIPTORS: *Nuclear weapons, Uranium, Hydrogen, Bombs, Design, Production, Costs, Explosion damage, *Atomic bombs, *Hydrogen bombs.

Margulova, T. Kh.
TRAINING OF SPECIALISTS IN THE PEACEFUL UTILIZATION OF NUCLEAR POWER. 16 Feb 59, 16p. JPRS L-638-N
Order from OTS or SLA $1.60 59-13191

Trans. of Jaderna Energie (Czechoslovakia) 1958, v. 4, no. 8, p. 210-215.

DESCRIPTORS: *Electric power production, Power plants, *Nuclear power plants, Thermoelectricity, Atomic energy engineering, *Nuclear energy, Consumption, Engineering personnel, Personnel, Students, Training.

Radioactivity

Dubinin, N. P., Sidorov, B. N., and Sokolov, N. N.
RADIOGENETIC EFFECT OF VISIBLE LIGHT IN PROVOKING CHROMOSOMAL REARRANGEMENTS (Radiogeneticheskii Effekt Vidimogo Sveta pri Vyzyvanii Khromosomnykh Perestroek). 25 Oct 61, 22p. 44 refs. Trans. A-1302.
Order from OTS or SLA $2.60 62-13474

Trans. of mono. Fiziko-Khimicheskie i Strukturne Osnovy Biologicheskikh Yavienii, Moscow, 1960, p. 142-153.

DESCRIPTORS: *Chromosomes, Cells (Biology), Photochemistry, Mitosis, Chemical reactions, Genetics, *Light, Visibility, Radiation effects.

The photodynamic action of rivanol in relation to chromosome rearrangements in the cells of onion roots was demonstrated. Photons, even with energy as low as that of visible light, in penetrating into the cell during the Photodynamic process provoke chromosome breakage in quantities comparable with the action of ionizing radiations and ultra-violet light. Intrachromosomal (ring fragments - deletions), as well as interchromosomal rearrangements (translocations) were discovered. This demonstrates that the character of chromosome rearrangements caused by the photodynamic effect is similar to the rearrangements provoked by ionizing radiations, lacking the specificity inherent in ultra-violet light.

Geal, Laszlo.
RADIOACTIVE POLLUTION OF HUNGARY'S SURFACE WATERS. 17 Oct 61 [8]p. JPRS: 10595.
Order from OTS or SLA $1.10 62-19316

Partial trans. (some sections summarized) of Hidrologiai Kozlony (Hungary) 1961, v. 41, no. 3, p. 266-258.

DESCRIPTORS: Water, *Water supplies, *Radiological contamination, Contamination, *Radioactivity, *Hungary.

PHYSICS

REPORTS FROM THE HUNGARIAN SOCIETY OF OPTICS, ACOUSTICS, AND FILM TECHNOLOGY. 25 June 61 [7]p. JPRS: 8438.
Order from OTS or SLA $1.10 62-19411

Trans. of Kep es Hangtechnika (Hungary) 1961, v. 7, no. 1, p. 30-31.

DESCRIPTORS: Conferences, *Optics, *Acoustics, *Films, Motion pictures, Television, Recording systems, *Hungary.

Activities are summarized of the general meeting of the Society, which was held on 18 November 1960.

Borzunov, V. A. and Semin, V. P.
GENERAL-PURPOSE EQUIPMENT USED IN HIGH PRESSURE EXPERIMENTS (Obshchaya Apparatura, Primenyaemaya v Eksperimentakh s Vysokimi Davleniyami). Jan 62 [14]p. RTS 1994.
Order from OTS or SLA $1.60 62-13921

Trans. of Komitet Standartov, Mer i Izmeritel'nykh Priborov. Trudy Inst[itu]tov Komiteta (USSR) 1960, v. 46(106) p. 107-116.

DESCRIPTORS: *High pressure research, High pressure laboratories, High pressure valves, Laboratory equipment, Hydraulic pressure pumps, Pistons, Rubber seals, Hydrostatic pressure, Pressure.

This paper discusses some elements of general-purpose high pressure equipment such as pressure multipliers, valves, pumps, etc. which have proved their value in practice. (Author)

Brodskii, A. D., Savateev, A. V., and Frank-Kamenetskii, D. A.
NEW METHOD OF ABSOLUTE MEASUREMENT OF TEMPERATURE [AND] BELOW ABSOLUTE ZERO. [1961] [13]p. 8 refs. [DSIR NLL] M. 4547.
Order from OTS or SLA $1.60 62-13120

Trans. of #Izmeritel'naya Tekhnika (USSR) 1960, no. 5, p. 21-25 and Priroda (USSR) 1960 [v. 49] no. 3, p. 16-22.

DESCRIPTORS: Temperature, Measurement, *Thermometers, Noise, Voltage, Energy, Quantum statistics, Microwave oscillators, Oscillators, Amplifiers, Light, *Thermodynamics.

Brodskii's paper suggests a new method for measuring temperatures, based on amplitude discrimination and counting of the number of pulses of thermal noise voltage which depends on the absolute temperature of the resistance. A relationship is given connecting the absolute value of the temperature with the number of pulses per unit time with a known value of discrimination threshold. The proposed method makes possible in principle the measurement of temperatures over a wide range. Theoretically the sensitivity of the method increases with diminution of temperature. Frank-Kamentskii discusses an extension of the very concept of temperature; energy and temperature: 1 eV = 11,600°; limited energy in quantum physics; to change from positive to negative temperature through infinity; molecular oscillators; how negative temperatures can be maintained for long periods; and the possibility of amplifying visible light.

Kou-Yu.
SOME CHARACTERISTICS OF HIGH-FREQUENCY ION SOURCES. 25 Jan 62 [9]p. 3 refs. FTD-TT-61-169.
Order from OTS or SLA $1.10 62-19631

Unedited rough draft trans. of Wu Li Hsüeh Pao (Chinese People's Republic) 1960, v. 16, no. 2, p. 107-110.

DESCRIPTORS: *High frequency, *Ion sources, Oscillators, Discharge tubes, Gases, Pressure, Magnetic fields, Radiofrequency power, Voltage, Mechanical properties, Ionic current.

A maximum ion current of 1.35 ma was obtained with a collector 1.8 mm in diameter, a collector channel 9.5 mm long, and a magnetic field of 150 oersteds. The design of the ion source and the high-frequency oscillator was basically similar to that described by C. D. Moak et al. (Nucleonics 9:18, 1951). (Author)

Lebedeva, I. V.
STUDY OF THE REVERBERATION CHAMBER OF THE ACOUSTICS DEPARTMENT OF MOSCOW STATE UNIVERSITY. [1961] [9]p. 10 refs. [DSIR LLU] M. 3256.
Order from OTS or SLA $1.10 61-27614

Trans. of #Akusticheskii Zhurnal (USSR) 1960, v. 6, no. 3, p. 326-334.

DESCRIPTORS: *Acoustics, *Reverberation, Sound, Absorption, Measurement.

Detailed study was made of the properties of the reverberation chamber. Characteristics were obtained for the transmission of sound, curves were plotted for the uniformity of the field and the correlation coefficients between sound pressures at two points were described. The reverberation time in the empty room, at a frequency of 160 c/s reached 19 seconds and fell to 2.9 seconds at 5,000 c/s. The conditions for setting up a diffuse field satisfying requirements as to measurement of the statistical coefficient of sound absorption were elucidated. (Author)

Zhokhovskii, M. K.
A THERMODYNAMIC METHOD OF MEASURING SUPERPRESSURES (Termodinamicheskii Metod Voprozvodeniya Sverkhvysokikh Davlenii). Dec 61 [17]p. 13 refs. RTS 1991.
Order from OTS or SLA $1.60 62-13748

Trans. of Komitet Standartov, Mer i Izmeritel'nykh Priborov. Trudy Institutov Komiteta (USSR) 1960, v. 46(106) p. 68-80.

DESCRIPTORS: *High pressure research, Hydrostatic pressure, *Thermodynamics, Manometers.

Electricity and Magnetism

Kienlin, A.
MAGNETIC MATERIALS WITH PERMINVAR EFFECT PT. I. A CONTRIBUTION TO THE UNDERSTANDING OF THE EFFECT AND ITS TEMPERATURE DEPENDENCY. [1961] [19]p. (5 figs. omitted).
Order from SLA $1.60 62-10597

Trans. of Zeitschrift für Angewandte Physik (West Germany) 1957 [v. 9, no. 10] p. 520-[526].

DESCRIPTORS: *Magnetic materials, Magnetic effects, Magnetism, Temperature.

The perminvar effect occurs in spontaneously magnetized materials in which the demagnetized state is a particularly marked, stable state. A directional distribution of spontaneous magnetism existing in the material may be stabilized by diffusion processes, in particular by ordering processes, if the processes take place below the Curie-temperature and have the effect that a uniaxial anisotropy, dependent on the direction of spontaneous magnetism, is superimposed on the original anisotropy. Uniform preferred positions for spontaneous magnetism are given in advance by the uniaxial anisotropy. The influence of these preferred positions on the magnetization process and its temperature dependency is discussed, and the disappearance of the perminvar effect at low temperatures explained. (Author)

Kirenskii, L. V., Buravikhin, V. A., and Savchenko, M. K.
DOMAIN STRUCTURE OF THIN FERROMAGNETIC FILMS IN A MAGNETIC FIELD. [1962] 8p. (5 figs. omitted) 5 refs.
Order from OTS or SLA $1.10 62-14068

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1961, no. 4, p. 52-55.

DESCRIPTORS: *Thin films, *Ferromagnetic materials, *Magnetic fields, Nickel alloys, Iron alloys, Molybdenum alloys.

The domain structure in thin ferromagnetic films of an alloy 80% Ni, 17% Fe, 3% Mo was investigated by the powder-figure method. In Fe-Ni-Mo alloy films obtained by vaporization in a vacuum in the presence of a magnetic field coinciding with the plane of the film, in most cases domain structure is not displayed without previous demagnetization. The form of the structure after demagnetization of the films essentially depends on the direction of the demagnetizing field relative to the axis of easy magnetization. As the angle between the demagnetizing field and the axis of easy magnetization is increased, the number of boundaries increases, and the domains become narrower. In demagnetized films, for a significant range of fields the domain structure is stable. As the field is further increased, in a narrow range the change of domain structure occurs, while in sufficiently thick films (2600 A°) the change of domain structure takes place with boundary displacement, that is, for example, in the same way as for massive ferromagnetic crystals. In thinner films almost no boundary displacement is observed, but their fragmentation occurs, apparently associated with the sudden remagnetization of a significant part of the domains not advantageously oriented with respect to the field. Such remagnetization occurs by the sudden rotation of the magnetization vector of the area being remagnetized.

Kondorskii, E.
NATURE OF THE HIGH COERCIVE FORCE OF FINELY-DISPERSED FERROMAGNETICS AND THE THEORY OF SINGLE-DOMAIN STRUCTURES [Priroda Vysokoi Koertsitivnoi Sily Melkodispersnykh Ferro-Magnetikov i Teoriya Odnodomennoi Struktury]. [1961] 20p. 23 refs. MDF K 130.
Order from OTS or SLA $1.60 62-23120

Trans of A[kademiya] N[auk] SSSR. Izvestiya. Ser[iya Fizicheskaya] 1952, v. 16, no. 4, p. 398-411.

DESCRIPTORS: *Ferromagnetic materials, Magnetic properties, *Powder metals, *Magnetic susceptibility, Theory.

Previous studies on the theory of single-domain structures (Doklady Akad. Nauk SSSR 80: 197-200, 1951, available in translation from LC or SLA as 61-13688; and Doklady Akad. Nauk SSSR 82: 365, 1952) are summarized and developed. Consideration is given to (1) the distribution of magnetizability in small sections of ellipsoidal shape and conditions for a single domain structure, (2) the size of single-domain particles for very low concentrations of the ferromagnetic phase, (3) the dependence of the coercive force on the size of spherical particles with almost critical dimensions, (4) the influence of the concentration of ferromagnetic spherical particles of powders on the magnitude of R_0 (the greatest value of the radius of single-domain particles) and on the magnitude of the coercive force, and (5) the dependence of the mean magnetic susceptibility of powders on the volume concentration of ferromagnetic particles with spherical shape. The calculations show that if the particles are single-domain ($R \leq R_0$) for very small concentrations, then they remain single-domain as the concentration increases.

Popov, V. A.
ENERGY SPECTRUM OF AN ANTIFERROMAGNET IN A MAGNETIC FIELD. [1961] 9p. 4 refs.
MDF P-168.
Order from OTS $0.50 62-11520

Trans. of Ukr[ayins'kyi] Fiz[ychnyi] Zh[urnal] (USSR) 1961, v. 6, no. 1, p. 25-33.

DESCRIPTORS: *Antiferromagnetism, *Magnetic fields, Thermodynamics, Energy.

The energy spectrum of a uniaxial antiferromagnet is calculated, taking account of dipole-dipole interaction of the magnetic moments. The role of the dipole-dipole interaction is elucidated. (Author)

Molecular Physics and Spectroscopy

Alekseev, M. A.
INFLUENCE OF THE MOLECULAR COMPOSITION OF THE SAMPLE ON THE ATOM CONCENTRATION IN AN ACTIVATED AC ARC. [1960] 7p. 15 refs.
MDF A-143.
Order from OTS $0.50 62-11353

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Fizika (USSR) 1959, no. 4, p. 59-63.

DESCRIPTORS: *Plasma physics, Alternating current, *Electric arcs, Excitation, Gas ionization, Electrodes Gas discharges, Atoms, Vapors, Nickel compounds, Cobalt compounds, Manganese compounds, Lead compounds, Chlorides, Sulfates, *Ionization potentials, Molecular spectroscopy, Heat of formation, Heat of sublimation.

A determination is made of the absolute atom concentrations in the plasma of an activated ac arc upon the introduction of nickel, cobalt manganese and lead compounds of differing molecular compositions. It has been established that for the same concentration of nickel, cobalt, manganese in the electrodes, the concentration of their vapors in the discharge gap will be different for different compounds. The difference in the concentrations is related to the difference in the strength of the bonds of the Ni, Co, Mn in the given compounds and also to the difference in the time the atoms of these metals are presented from their different molecular compounds to the discharge zone. (Author)

Neporent, B. S., Vasilevskii, K. P. and others.
A VACUUM SPECTROMETER WITH DIFFRACTION GRATING FOR THE REGION 0.7-3 MICRONS (Vakuumnyi Spektrometr s Difraktsionnoi Reshetkoi dlya Oblasti Spektra 0.7-3 Mu) tr. by R. G. Merrill. 22 June 61 [7]p. (5 figs. omitted) 1 ref.
Order from OTS or SLA $1.10 61-27254

Trans. of Optika i Spetroskopiya (USSR) 1957, v. 3, no. 3, p. 289-293.

DESCRIPTORS: *Infrared spectroscopy, *Diffraction gratings, Vacuum apparatus, Monochromatic light, Resolution, Design, Optics, Reflection, Water vapor, Carbon compounds, Monoxides, Absorption spectra, *Optical spectrometers.

On the basis of a diffraction grating monochromator, a device was constructed for investigating the infrared spectrum in the region 0.7 to 3 microns with a resolution of 0.1 cm^{-1}, which is close to the diffraction limit. The device is supplied with a multi-reflection cell according to the scheme of White with an optical path length up to 180 m. (Author)

Rubeska, Ivan, and Polej, Bohumil.
WIDTH OF THE SPECTRAL LINE AND ITS USE IN SPECTROGRAPHY. [1961] 28p. 45 refs.
Order from SLA $2.60 62-10623

Trans. of Chemicke Listy (Czechoslovakia) 1961, v. 55, p. 139-153.

DESCRIPTORS: *Spectrographic analysis, *Spectrographic data, Spectrophotometers, Photometers, Photographic emulsions, Photographic plates.

The main factors that determine the width of the line and the situations in which they are applicable are discussed. Literature (mainly west European) published on the subject between 1913 and 1958 is reviewed.

Optics

Plotkin, I. R.
ADDITIVE REST MASS. Feb 61 [8]p. 6 refs.
MDF P-159; AFCRL-27; AD-251 774.
Order from OTS $0.50 62-11260

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Fizika (USSR) 1959, no. 4, p. 64-67.

DESCRIPTORS: *Physics, Mass energy relation, Theory, Electromagnetic fields, Thermodynamics, *Light, Interference.

The dual meaning of the rest mass concept of a physical system is stated; the difference between the additive and non-additive rest masses is discussed. It is noted that not only the non-additive but also the additive rest mass of an electromagnetic field is not always zero by far. The tendency of a system to spontaneous diminution of the additive rest mass when left to itself is indicated. (Author)

Plotkin, I. R.
REST MASS OF LIGHT AND INTERFERENCE PHENOMENA. Feb 61 [9]p. 2 refs. MDF P-160; AFCRL 58; AD-255 675.
Order from OTS $0.50 62-11269

Trans. of Izvestiya V[ysshikh] U[chebnykh Z[avedeniy]. Fizika (USSR) 1959, no. 6, p. 90-94.

DESCRIPTORS: *Light, Theory, Interference, Electromagnetic fields, *Physics, Mass energy relation, Thermodynamics.

The rest mass of one and a set of two light beams is calculated. It is shown that in the ideal interference experiment studied by Laue, the rest mass of light changes similarly to the additive energy. (Author)

Solid State Physics

Ageev, N. V. and Shekhtman, V. Sh.
ON THE PROBLEM CONCERNING THE NATURE OF SIGMA PHASE, tr. by Lydia Venters. Apr 61, 5p. 15 refs.
Order from OTS or SLA $1.10 AEC-tr-4566

Trans. of Ak[ademiya] Nauk SSSR. Doklady, 1960, v. 135, no. 2, p. 309-311.

DESCRIPTORS: *Transition elements, *Rhenium alloys, *Phase studies, Microstructure, X-ray diffraction analysis, Solid state physics, Iron alloys, Chromium alloys, Manganese alloys.

An X-ray diffraction study was made of the ordering of σ-phases in the systems chromium-rhenium, manganese-rhenium, and iron-rhenium. Results indicate that the distribution of atoms in the cells of the σ-phase is correlated with the coordination number. The positions 2(a) and 8(i_D) that correspond to the smallest coordination number, and the positions 4(f) that correspond to the largest coordination number are always occupied by the atoms of different kinds. Chromium atoms occupy the positions with the coordination number 15, and manganese and iron occupy positions with the coordination number 12. Rhenium content decreases in the σ-phases as the group number of the second component increases. Thus the rhenium content in Re-Fe is lower than that in Re-Mn, that in Re-Mn is lower than that in Re-Cr, and that in Re-Cr is lower than that in Re-V.

Anton'yants, V. Ya.
NEW METHOD OF MEASURING THE WIDTH OF THE ABSORPTION CURVE IN FERRITES. [1960] 4p. 1 ref. MDF A-148.
Order from OTS $0.50 62-11546

Trans. of #Radiotekh[nika] i Elektr[onika] (USSR) 1960, v. 5, no. 1, p. 167-169.

DESCRIPTORS: *Ferrites, *Paramagnetic resonance, Resonance, Absorption, Measurement, Magnetic fields, Frequency, Fluxmeters, Electromagnets, Klystrons, Frequency modulation.

The proposed measurement method does not require apparatus for the exact measurement of the magnetic field, and permits the sufficiently exact measurement of very narrow absorption curves.

Enz, H. and Rossel, J.
ON THE LUMINESCENCE OF CsI AND NaI. [1962] 12p. 8 refs.
Order from SLA $1.60 62-14561

Trans. of Helvetica Physica Acta (Switzerland) 1958, v. 31 [no. 1] p. 25-32.

DESCRIPTORS: *Cesium compounds, *Iodides, *Sodium compounds, *Luminescence, Crystals, Lattices.

Improved measurements of the decay law and of the temperature dependence of the decay time and luminescent yield were made for two types of scintillations in pure CsI and NaI. The results show that the one type is described by a relatively simple model and may be explained, as already suggested for NaI, as the recombination of degenerated excitons, self-trapped in the crystal lattice. The other type of scintillations, however, is related to permanent defects produced in the crystal by thermal treatment or plastic deformation and is only partially accounted for by the simple general model valid in the first case. (Author)

Kitamura, Saburo, Kubo, Takao and others.
SINTERED CADMIUM SULPHIDE PHOTOCONDUCTING FILMS. [1961] [12]p.
Order from SLA $1.60 62-10987

Trans. of Oyo Butsuri (Japan) 1960, v. 29, no. 9, p. 636-641.

DESCRIPTORS: *Cadmium compounds, *Sulfides, *Photoconductive films, Preparation, *Sintering, Photosensitivity, Solid state physics.

The production method and the characteristics of photoconductive sintered CdS film are described. As sintered CdS film can be fabricated into desired shapes and a comparatively strong photocurrent can be gained from it, it is expected to be employed in many ways as a photosensitive element in various photoelectric relays or photoelectric meters. (Author)

Petrov, D. A.
METHODS OF GROWING SILICON AND GERMANIUM SINGLE CRYSTALS. [1961] 19p. 16 refs. MDF P-163.
Order from OTS $0.50 62-11261

Trans. of Vsesoyuz[noe] Khim[icheskoe] Ob[shchest]vo Zhurnal (USSR) 1960, v. 5, no. 5, p. 544-552.

DESCRIPTORS: *Single crystals, Growth, *Silicon *Germanium, Semiconductors, Electrical properties, Impurities, Solid state physics.

Schrödinger, Erwin
SPECIFIC HEAT (THEORY) (Spezifische Wärme (Teoretischer Teil)). [1961] [30]p. (foreign text included) 41 refs.
Order from SLA $2.60 62-10527

Trans. of Handbuch der Physik (Germany) 1926/1929, v. 10, chap. 5, Sec. 18-24 p. 308-318.
Another trans. is available from SLA mi$3.00, ph$6.30 in 59-10952 [1958] 39p.

DESCRIPTORS: *Crystals, Theory, *Specific heat, Solids, Relativity theory, Lattices.

Sections included are those entitled: consideration of the aeolotropy, lattice theory; different approximation experiments; dispersion of the elastic waves; optical branches, residual ray frequencies; general theory of the T^3 law; and specific heat at high temperature.

Smirous, Karel, Stourac, Ladislav, and Bednar, Jan.
THE SEMICONDUCTING COMPOUND SiTe. [1962] 2p. (1 fig. omitted) 5 refs.
Order from SLA $1.10 62-14421

Trans. of [Chekhoslovatskii Fizicheskii Zhurnal] 1957, v. 7 [no. 1] p. 120-122.

DESCRIPTORS: *Silicon compounds, *Tellurium compounds, Electrical properties, *Semiconductors, Tellurides.

Tellurium and silicon were weighed with great accuracy into a quartz ampoule in the stoichiometric proportions of SiTe; the ampoule was sealed after evacuation at a pressure of 10^{-3} mm Hg. The two elements were kept in the ampoule for a duration of four hours at 1200°C with frequent thorough mixing. The resulting telluride had a metallic appearance; however on cracking it showed a brown-red color. In moist air a gradual decomposition of the material took place with evolution of hydrogen telluride. The melting point of the resulting material was 898°C± 4°C. An x-ray structure analysis of powder samples made from the polycrystalline telluride established that the material contained no amount of uncombined constituents and that its crystal lattice was not of the sodium chloride type. The density of the SiTe was 3.93 g/cm^3. The material is a semiconductor. The average specific conductance of the samples at room temperature was 5×10^{-3} ohm^{-1}cm^{-1}. It has an intrinsic conductivity in the temperature region above room temperature and in the region below this temperature a mixing conductivity predominates.

Pugachev, Ya. I.
CONFORMAL MAPPING IN THE GENERAL THEORY OF RELATIVITY AND CERTAIN QUESTIONS OF COSMOLOGY. Feb 61 [13]p. 11 refs. MDF P-162; AFCRL 59; AD-255 676.
Order from OTS $0.50 62-11270

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii] Fizika (USSR) 1960, no. 1, p. 46-53.

DESCRIPTORS: *Relativity theory, *Conformal mapping, *Philosophy.

Known solutions of the gravitation equations using conformal mapping contain assumptions which not only limit their generality but can also be the subject of discussion. An exact solution is obtained herein of a similar problem with a minimum of additional hypotheses. The physical consequences which here result differ substantially from the usual conception of an expanding universe. (Author)

Pugachev, Ya. I.
USE OF A PLANE SPACE IN GRAVITATIONAL FIELD THEORY. June 60 [13]p. 9 refs. AFCRL-TN-60-562; MDF P-146; AD-239 796.
Order from OTS $0.50 62-11509

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Fizika (USSR) 1959, no. 6, p. 152-161.

DESCRIPTORS: *Tensor analysis, *Gravity, Theory.

In the general theory of relativity, there is introduced a second, known, space in addition to the desired Riemann space. Both spaces are analyzed in the same coordinates. A number of tensor and tensor relations are obtained which are impossible to obtain in conventional theory. In particular, an intrinsic gravitational field, with a tensor character, and a noncovariant inertial force field, arising as a result of a coordinate transformation, can successfully be separated out of the total field. If the auxiliary space is considered a plane, then a number of relations simplify. The problem of the selection of coordinates is considered and a general tensor expression of the additional conditions to the basic field equations, containing the differential identity, is obtained. (Author)

Pustovoit, V. I.
ON LINEAR THEORIES OF GRAVITATION. Feb 61 [14]p. 27 refs. MDF P-161; AFCRL 34; AD-255 671.
Order from OTS $0.50 62-11262

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii] Fizika (USSR) 1960, no. 3, p. 63-71.

DESCRIPTORS: *Gravity, Theory, *Relativity theory.

The Birkhoff and Belinfante linear theories of gravitation are compared with the general theory of relativity. It is shown that such differences between them can be found as can, in principle, be detected by experiments with artificial satellites. (Author)

Aga, M. S.
INVESTIGATION OF THERMAL FIELDS FOR BODIES OF CYLINDRICAL SYMMETRY (Issledovanie Teplovykh Polei dlya Nekotorykh Tel Tsilindricheskoi Simmetrii). Sep 60 [3]p. TIL/T. 5147; [DSIR NLL] M. 2460.
Order from OTS or SLA $1.10 61-23396

Trans. of mono. 13-ya Nauch[naya] Konferentsiya Leningr[adskogo] Inzh[enerno]-Stroit[el'nogo] In[stitu]ta, L[eningrad] 1955, p. 228-229.

Portions of this report will not reproduce well.

DESCRIPTORS: *Cylindrical bodies, Iron, Concrete, Structures, Cooling, *Thermal conductivity, Stresses, Mathematical analysis, Integrals, Differential equations.

Polyakov, Yu. A. and Mit'kina, E. A.
A METHOD FOR STUDYING HEAT TRANSFER IN AN INTERMITTENT GASDYNAMIC PROCESS.
12 Feb 62 [16]p. 6 refs. FTD-TT-62-69; SC-976; AD-272 532.
Order from OTS or SLA $1.60 62-19274

Unedited rough draft trans. of paper for presentation at the Conference [on] Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61.

DESCRIPTORS: *Heat transfer, Thermal conductivity, *Gas flow *Shock tubes, Shock waves, *Transducers, Thin films, Plasma physics, Electric discharges, Glass, Dielectrics, Platinum.

We have further developed the method for studying heat transfer according to the nonsteady-state temperature of the surface of a body in a high-speed process. It has been established that beginning with $Fo = Fo_{cr}$ for a broad range of combinations of the thermal coefficients of film and backing, the temperature gradient throughout the film and the amount of heat accumulated by the film during heating can be neglected, and the heat flow can be determined from the formula for a semi-bounded rod. We have developed a method for applying thin conducting films onto dielectrics by cintering a platinum deposit, a film of chemical paste, with brief annealing. This produces transducers with a stable linear dependence of resistance on temperature and which are quite strong under conditions of supersonic flow. This method used in a shock tube gave good results with regard to reproducibility of experimental data. Results of experiments on heat transfer at the side wall behind an incident shock wave are in good agreement with G. A. Tirskiy's theoretical results (Doklady Akad. Nauk SSSR 128: 1140-1143, 1959) on the constancy of wall-surface temperature, when a laminar boundary forms on the wall behind a compression jump.

Rebrov, A. K.
HEAT TRANSFER OF A CYLINDER WITH FREE MOTION OF A GAS IN RAREFIED SPACE. 17 Jan 62 [16]p. 3 refs. FTD-TT-62-50; FTD-SC-959.
Order from OTS or SLA $1.60 62-15721

Unedited rough draft trans. from mono. Conference on Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61. [Proceedings] 15p.

DESCRIPTORS: *Heat transfer, Gas cylinders, Vacuum apparatus, Pressure, Motion

Experimental studies of heat transfer from vertical and horizontal cylinders in a rarefied space were conducted in order to explain the peculiarities of heat transfer at low pressures and establish criterial relationships for calculating heat transfer.

Sterman, L. S., Morozov, V. G., and Kovalev, S. A.
STUDY OF HEAT EXCHANGE DURING BOILING OF WATER AND ETHYL ALCOHOL IN PIPES, tr. by Sergey Shewchuck. 30 June 61, 11p. 6 refs.
Order from OTS or SLA $1.60 UCRL Trans-694

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1959, v. 2 [no. 10] p. 40-45.

DESCRIPTORS: *Heat transfer, *Boiling, Water, Ethanols, Pipes, *Thermodynamics.

An investigation is made of heat transfer to water boiling at a pressure of from 27 to 90 atm. The process of steam formation takes place while the medium is being forced through a vertical pipe 16 mm in diameter. In these same conditions experiments were conducted with boiling ethyl alcohol at a pressure of 2 atm. The investigation was carried out by boiling in a stainless steel pipe heated by an electric current. The thermal resistance of the wall of the pipe was determined by three different methods. The experimental data obtained are worked out in a generalized criterial relationship. Considerable data published in recent years by other investigators are also worked out in this relationship. The generalized critical relationship obtained earlier (Zhur. Tekh. Fiz. 23: 341-351, 1953; and Zhur. Tekh. Fiz. 24: 2046-2053, 1954, available in translation from SLA as 59-17501) satisfactorily describes heat exchange where there is directed movement of the medium. (See also 61-20529 and PB 119306).

Stupochenko, E. V., Dotsenko, B. B. and others.
METHODS OF CALCULATING KINETIC COEFFICIENTS OF AIR AT HIGH TEMPERATURES (Metody Rascheta Kineticheskikh Koeffitsientov Voedukha pri Vysokikh Temperaturakh). [1961] [41]p. (Foreign text included) 12 refs. [DSIR NLL]M. 4548.
Order from OTS or SLA $4.60 62-13110

Trans. of mono. Fizicheskaya Gazodinamika, n.p., n.d., p. 39-58.

DESCRIPTORS: *Air, Viscosity, Thermal conductivity, Temperature, Pressure, Atmosphere, *Gases, *Thermodynamics, Mathematical analysis.

Kinetic coefficients of air, viscosity and thermal conductivity, are calculated for the range of temperatures from 2,000° to 8,000°K, and for the range of pressures from 0.001 to 1,000 atmospheres.

Tsirel'nikov, V. I., Komissarova, L. N., and Spitsyn, Vikt, I.
THERMAL CONDUCTIVITY AND VISCOSITY OF ZIRCONIUM AND HAFNIUM TETRACHLORIDE VAPOR IN THE RANGE OF 300^{o}-700^{o}. [1962] 4p.
Order from ATS $6.75 ATS-34P60R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 139, no. 6, p. 1389-1391.

DESCRIPTORS: *Zirconium compounds, *Hafnium compounds, *Chlorides, *Thermal conductivity, Viscosity, Vapors, High temperature research.

Wave Propagation

RADIO WAVE PROPAGATION. Bibliography based on Soviet Literature, 1958-1960. 7 Nov 61 [52]p. 261 refs. AID rept. 61-150; AD-267 928.
Order from OTS or SLA $5.60 62-13763

DESCRIPTORS: *Bibliography, *Wave transmission, *Radio waves, *Electromagnetic waves, *Ionospheric propagation, Atmosphere, Propagation, *Radio transmission.

Contents:
Propagation in general
Propagation in the troposphere
Propagation in the ionosphere.

Bakhareva, M. F.
CROSS CORRELATION OF FLUCTUATIONS OF A FIELD WITH FINITE DIMENSIONS OF THE RECEIVING LENSES. [1961] [5]p. 3 refs. [DSIR NLL] M. 4623.
Order from OTS or SLA $1.10 62-15697

Trans. of #Radiotekhnika i Elektronika (USSR) 1961, v. 6, no. 1, p. 9-13.

DESCRIPTORS: Antennas, *Lens antennas, Lenses, Correlation techniques, Monochromatic light, Refractive index, Propagation.

The coefficient of cross correlation R has been obtained for fluctuations of a field in the foci of lenses on which falls a monochromatic, and initially planar, wave, passing through layers of a medium with large scale random irregularities of the refractive index. It is shown that, if the dimensions of the lenses are comparable with the radius of cross correlation of the fluctuations of the field, then, when there is an increase in the distance between the points of reception, the coefficient R, where lenses are present, drops more slowly than when these are absent. (Author)

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

FOREIGN DEVELOPMENTS IN MACHINE TRANSLATION AND INFORMATION PROCESSING NO. 58. 12 Dec 61 [179]p. 65 refs. JPRS: 11483.
Order from OTS or SLA $12.50 62-13845

Trans. of [Akademiya Nauk SSSR. Institut Nauchnoi Informatsii. Soobshcheniya Otdela Mekhanizatsii i Avtomatizatsii Informatsionnykh Rabot] 1960, v. 1, 250p.

DESCRIPTORS: *Machine translation, Data processing systems, Data storage systems, Digital computers, Computers, *Mathematical logic, *Language, *Chemistry, *Organic compounds, *Complex compounds, *Biology, *Documentation, Automation.

Contents:
Logical-mathematical problems of creating a machine language for an information machine, by V. A. Uspenskii
Basic trends in modern documentation and possibilities of constructing mathematical logic theories of information search systems, by N. I. Styazhkin
Problems involved in creating a machine language for organic chemistry, by G. E. Vleduts and V. K. Finn
An algorithm for translating structural formulas in organic chemistry into canonical notation, by V. B. Borshchev and others
An algorithm for converting the name of a complex compound presented in rational nomenclature, into a linear formula, by A. L. Saifer, and V. S. Shteyn
Algorithmic approaches to the translating of organic compound names into formulas, by A. L. Saifer
Problems involved in using semantic bonds in an information machine, by D. G. Lakhuti
Problems in creating a machine language for geometry, by H. M. Ermolaeva and Yu. A. Shikhanovich
Synthetic languages for biology, by D. G. Lakhuti
Automation of the translation of organic compound names into standard form and structural formulas into systematic names, by A. M. Tsukerman and G. G. Stetsyura.

FOREIGN DEVELOPMENTS IN MACHINE TRANSLATION AND INFORMATION PROCESSING, NO. 93. 19 Apr 62 [359]p. 47 refs. JPRS: 13514.
Order from OTS or SLA $21.00 62-23983

Trans. of #[Problemy] Kibernetiki (USSR) 1961, no. 6, p. 15-43, 45-67, 207-287, 289-297.

DESCRIPTORS: *Machine translation, Data, Processing, Digital computers, Programming, Scheduling, Matrix algebra, Algebra, Differential equations, Numerical methods and procedures, Coding, Language.

Contents:
The determination of eigenvalues of matrices by successive diagonalization on an electronic computer, by R. I. Podlovchenko
On the realization of algebraic-differential algorithms on electronic computers, by V. A. Shurygin and

N. N. Yanenko
On the use of symbolic addresses, by V. V. Martynyuk
An auxiliary standard subroutine for debugging a program (SPO-1) by L. Kh. Vyazalov and Yu. I. Morozov
Morphological analysis in machine translation (primarily of Russian language material) by I. A. Mel'chuk
An approach to the determination of verb stems for automatic analysis of Russian text matter, by V. A. Matveenko
The morphological types of stems in the Russian language (for distinction of homonymy of morphemes during analysis in machine translation, by L. N. Iordanskaya
Special features of coding and programming an algorithm for morphological analysis of the Russian language on the Kiev computer, by N. M. Grishchenko.

LINGUISTIC STUDIES ON MACHINE TRANSLATION (Lingvisticheskie Issledovaniya po Machinnomu Perevodu). Foreign Developments in Machine Translation and Information Processing no. 80. 27 Mar 62 [353]p. 82 refs. JPRS: 13173.
Order from OTS or SLA $21.00 62-23835

Trans. of [Akademiya Nauk SSSR. Institut Nauchnoi Informatsii. Soobshcheniya Otdela Mekhanizatsii i Avtomatizatsii Informatsionnykh Rabot] 1961, v. 2.

DESCRIPTORS: *Language, *Machine translation, Coding, Synthesis, Speech, *Geometry, *Chemistry, *Documentation, Philology, Mathematical logic, Vocabulary.

Contents:
Linguistics as a theory of relations between language systems and its modern practical application, by V. V. Ivanov
A study of relations between codes of various ranks, by V. V. Ivanov
On information language for geometry and algorithm for translation from Russian into information language, by A. V. Kuznetsov and others
On translation of titles of chemical papers into information languages, by M. M. Langleben and A. L. Shumilina
Syntagmas of the Russian language, by E. V. Paducheva and A. L. Shumilina
Preliminary articulation of sentence in syntactic analysis, by E. V. Paducheva
Establishing a syntactic relationship of prepositional groups in the Russian language, by I. N. Shelimova
On analysis of third-person pronoun, by A. L. Shumilina
Establishment of syntactic connections for formulas in Russian mathematical texts, by M. M. Langleben
On redundancy of certain contrapositions in inflexion system of Russian nouns, by E. V. Paducheva
On synthesis of a simple Russian sentence, by Z. M. Volotskaya and A. L. Shumilina
Form-generating in synthesis of Russian words, by Z. M. Volotskaya
On word formations in machine translation, by Z. M. Volotskaya
On algorithm of analysis of the Russian language (tor translation by means of an intermediary language) by E. V. Paducheva
Word treatment with homonymy of parts of speech in analyzing English text, by M. M. Langleben and E. V. Paducheva
Syntactic analysis of prepositional groups in English language, by M. M. Langleben
On analysis and a possible way of simplifying structure of a language text, by Z. M. Volotskaya and A. L. Shumilina
Some numerical data pertaining to forms of nouns and verbs of Russian language, by Z. M. Volotskaya and others.

NORWEGIAN PATENTS IN ENGLISH TRANSLATION, NOS. 99268, 99654-99710. 28 May 62, 58 nos.
Order from AC $1.85/each

DESCRIPTORS: *Patents, *Inventions, *Norway, Photographic paper, Paper, Centrifugal pumps, Pumps, Fire extinguishers, Sprinklers, Tankers, Hoists, Cordage, Gypsum, Sheets, Drying ovens, Vehicles, Washing machines, Protective coverings, Rolling mills, Towers (Chemistry), Electric filters, Alkyl radicals, Amines, Camphanes, Manufacturing methods, Electric switches, Electric machinery, Lubricants, Tables, Furniture, Heat resistant alloys, Alloys, Water, Valves, Pipes, Nozzles, Couplings, Electrolytic polishing, Food, Heating, Fibers, Paper industry, Machines, Hydraulic valves, Pneumatic valves, Eggs, Hydrocarbons, Pressure regulators, Telegraph signals, Specific impulse, Automatic, Telephones, Fuses (Electricity), Clamps, Heaters, Welding, Textiles, Insulin, Drugs, Vitamin A, Vitamin D, Rods, Mounting brackets

NORWEGIAN PATENTS IN ENGLISH TRANSLATION, NOS. 99505-99653. 21 May 62, 149 nos.
Order from AC $1.85/each

DESCRIPTORS: *Patents, *Inventions, *Norway.

PROCEEDINGS OF THE 1961 GENERAL MEETING OF THE HUNGARIAN ACADEMY OF SCIENCES. 24 Jan 62 [89]p. JPRS: 12107.
Original copy poor quality; available on loan from OTS or SLA 62-19561

Trans. of Magyar Tudomany (Hungary) 1961, v. 6[68] no. 5, p. 269-294 and 311-313; no. 6, p. 361; Partial trans. (some sections summarized) of [Magyar Tudomanyos Akademia]. Akademiai Kozlony (Hungary) 1961 [v. 12] no. 8, p. 61-63.

DESCRIPTORS: *Scientific organizations, Scientific personnel, Scientific research, *Hungary.

Contents:
Report on the (1961) general meeting of the Hungarian Academy of Sciences (no. 121)

SCIENTIFIC ACTIVITIES NEWS, 1960, NO. 11: SELECTED TRANSLATIONS. 24 Mar 61 [26]p. JPRS: 7443.
Order from OTS or SLA $2.60 62-19359

Trans. of Tin Tuc Hoat Dong Khoa-Hoc [sic] (North Vietnam) 1960, no. 11, p. 25-33, 44-46, 49.

DESCRIPTORS: *Scientific research, *Medical research, Universities, Agriculture, Economics, History, Ophthalmology, Malaria, Hospitals, Conferences, *Language, Medical personnel, Personnel, *Students, Theses, *Vietnam.

Contents:
Scientific activities in Oct 60
Conference on the reform of the national language
Theses of Vietnamese medical students graduated from Soviet medical schools.
Announcement of the presidium of the Hungarian Academy of Sciences, concerning awards
Opening address by the president of the Hungarian Academy of Sciences, by Istvan Rusznyak
Report of the presidium to the 1961 general meeting of the Hungarian Academy of Sciences, by Ferenc Erdei
Resolutions adopted by the (1961) general meeting of the Hungarian Academy of Sciences (no. 121).

SCIENTIFIC DEVELOPMENT IN SLOVAKIA. 21 Aug 61 [50]p. JPRS: 4902.
Order from OTS or SLA $4.60 62-19521

Trans. of Slovenska Akademia Vied. Vestnik (Czechoslovakia) 1960, v. 2, no. 1, p. 3-41.

DESCRIPTORS: *Science, Growth, Scientific research, Scientific organizations, *Czechoslovakia, Conferences

Contents:
Fifteen years of scientific development in Slovakia, by Andrej Siracky
Plenary Session of the Slovak Academy of Sciences (no. 12).

SCIENTIFIC RESEARCH PROGRAMS CONDUCTED IN NORTH VIETNAM DURING 1960. 20 Jan 61 [18]p. JPRS: 7182.
Order from OTS or SLA $1.60 62-19358

Trans. of Tin Tuc Hoat Dong Khoa-Hoc [sic] (North Vietnam) 1960, no. 9, p. 21-27.

DESCRIPTORS: *Scientific research, Research program administration, *Medical research, *Malaria, Microbiology, Epidemiology, Antitoxins, *Trachoma, Glaucoma, Biology, *Vietnam, *Agriculture, Plants, Physiology, Growth, Fertilizers.

Contents:
Results of experimental research in vaccination conducted during the winter-spring season of 1959-60 by the Agricultural Institute
Research conducted by the Malaria Institute during the first six months of the year
Research conducted by the Microbiological Institute during the first six months of 1960
Anti-trachoma work during the first six months of 1960
Research activities of the Comprehensive University during the first semester of 1960.

TRANSLATED SWISS PATENTS, NO. 3. 15 July 62 [200]p.
Order from OTS $3.00 62-11025

Trans. of Swiss patents including patent number, class number, name and residence of patentee and patent owner, title, filing and priority date, and first cliam. Excluded are those patents bearing priority dates from Australia, Austria, Canada, Great Britain, U.S., and W. Germany.

DESCRIPTORS: *Patents, Invention, Switzerland

TRANSLATED SWISS PATENTS, NO. 4. Aug 62 [56]p.
Order from OTS $1.50 62-11026

Trans. of Swiss patents including patent number, class number, name and residence of patentee and patent owner, title, filing and priority date, and first claim. Excluded are those patents bearing priority dates from Australia, Austria, Canada, Great Britain, United States, and West Germany.

DESCRIPTORS: *Patents, Inventions, Switzerland.

Adamczewski, Zdriskaw.
THE HYPOTHESIS OF THE UNDULATING STRUCTURE OF ERRORS (Hipoteza Falowej Struktury Bledow). 15 Sep 61 [14]p. JPRS: 10147.
Order from OTS or SLA $1.60 62-23270

Trans. of Geodezja i Kartografia (Poland) 1961, v. 10, no. 2, p. 151-159.

DESCRIPTORS: Measurement, *Errors, Probability, Model tests, Philosophy.

The possibilities are reviewed of physical modeling of systems of errors of measurement. The hypothesis of the undulating structure of errors of measurement is advanced and its correspondence with the molecular hypothesis of Hagen is established. Any system of errors arising during the observation of a single value or a series of values, can (after corresponding arrangement) be considered as a physical phenomenon (oscillatory system). Such a "materialization" of questions which on the other hand are abstract is suitable for the construction of analogous arrangements for compensation of observations. Physical models in compensating calculations make it possible to determine, readily and with adequate accuracy, corrections for observed values satisfying the condition $pvv = \text{minimum}$. Treatment of a system of errors as an oscillatory system permits analysis of the distribution of the errors to be made in a rapid and simple manner. (Author)

Andreev, N. D.
MACHINE LANGUAGES AS AN ELEMENT OF A UNIVERSAL CODE OF SCIENCE. Foreign Developments in Machine Translation and Information Processing, no. 79. 27 Mar 62 [11]p. JPRS: 13172.
Order from OTS or SLA $1.60 62-23586

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 9, 8p.

DESCRIPTORS: *Machine translation, *Language, Science, Coding.

Andreev, N. D.
SOME PRELIMINARY REQUIREMENTS FOR A TRANSLATING MACHINE. Foreign Developments in Machine Translation and Information Processing, no. 81. 28 Mar 62 [10]p. JPRS: 13194.
Order from OTS or SLA $1.10 62-23590

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 10, 8p.

DESCRIPTORS: *Machine translation, *Digital computers, Computers, Memory devices, Vocabulary, Design.

Leikina, B. M.
PROGRAM FOR THE ANALYSIS OF PHRASEOLOGICAL COMPLEXES. Foreign Developments in Machine Translation and Information Processing, no. 77. 26 Mar 62 [14]p. JPRS: 13134.
Order from OTS or SLA $1.60 62-23782

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 8, 12p.

DESCRIPTORS: *Machine translation, *Language, Vocabulary, Analysis.

Mel'chuk, I. A.
SOME PROBLEMS OF MACHINE TRANSLATION ABROAD. Foreign Developments in Machine Translation and Information Processing, no. 78. 26 Mar 62 [78]p. 72 refs. JPRS: 13135.
Order from OTS or SLA $7.60 62-23654

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 6, 44p.

DESCRIPTORS: *Machine translation, Literature, Bibliography, Language, Coding, Vocabulary.

Nikolaeva, T.
CLASSIFICATION OF A TABLE OF RUSSIAN GRAPHEMES (ON THE PROBLEM OF BUILDING A READING DEVICE). Foreign Developments in Machine Translation and Information Processing, no. 88. 30 Mar 62 [13]p. JPRS: 13256.
Order from OTS or SLA $1.60 62-23787

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 6, 11p.

DESCRIPTORS: *Reading machines, *Machine translation, Visual perception, Classification, Tables.

Safronov, M. V.
THE PROBLEM OF SELF-TEACHING MACHINES FOR PROCESSING SPOKEN INFORMATION. Foreign Developments in Machine Translation and Information Processing, no. 85. 28 Mar 62 [27]p. JPRS: 13198.
Order from OTS or SLA $2.60 62-23752

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 10, 12p.

DESCRIPTORS: *Speech, Language, Processing, *Teaching machines, *Machine translation, Dictionaries, Data processing systems.

Skorokhod'ko, E. F
AN EXPERIMENT IN THE DEVELOPMENT OF A VOCABULARY OF AN INFORMATION LANGUAGE BASED ON STEP-BY-STEP CODING OF THE MEANINGS OF TERMS. Foreign Developments in Machine Translation and Information Processing, no. 75. 21 Mar 62 [32]p. JPRS: 13056.
Order from OTS or SLA $3.60 62-23638

Trans. of Konferentsiya po Obrabotke Informatsii Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 8, 14p.

DESCRIPTORS: *Machine translation, *Language, *Coding, Vocabulary.

The proposed method for developing an information language vocabulary is based on the step-by-step coding of the content of terms (or the content of concepts) of a given science in accordance with the classes of objects that they denote. (Author)

Thomer, G.
PHOTOGRAPHY AND CINEMATOGRAPHY WITH X-RAY FLASHES (Photographie und Kinematographie mit Röntgenblitzen) tr. by Marcel I. Weinreich. 30 Apr 59, 9p. 8 refs.
Order from OTS or SLA $1.10 SCL-T-249

Trans. of Photographie und Wissenschaft (West Germany) 1958, v. 7, no. 1, p. 5-8.

DESCRIPTORS: *Photography, *X-ray photography, *Motion picture photography, X-rays, Electron tubes.

Communication Theory

TELECOMMUNICATIONS, 1960, VOL. 9, NO. 4: SUMMARY. 24 May 61 [7]p. JPRS: 9310.
Order from OTS or SLA $1.10 62-19360

Summary trans. of Telekomunikacije (Yugoslavia) 1960, v. 9, no. 4, p. 1-47.

DESCRIPTORS: *Communication systems, Communication equipment, Periodicals, *Commutators, Distortion, *Transmission lines, Coaxial cables, Automatic, Telephone communication systems, *Radio communication systems, Conferences, Abstracting.

Contents:
Coaxial commutators for decimetral wave-lengths and some problems relative to their construction, by Dragoslav Milanovic
Mechanical filters, by Janez Bajzelj
Quantitative scale of linear distortions, by Vladeta Marinkovic
Regulation of feeder cables supplying coordinated antennas, by Radivoje Milisavljevic
Automatic inter-urban telephone exchanges model ARM 201/2, by Bozo Milobar
The signals system in the new building of the fire department of the militia in Ljubljana, by Joze Unk
International Administrative Conference for Radio Communications (Geneva 1959) by Konstantin Simic.

Mel'nikov, Yu. N.
COMPARISON OF TWO METHODS OF UTILIZATION OF ONE-DIMENSIONAL COMMUNICATION STATISTICS TO IMPROVE FREEDOM FROM NOISE. 24 Aug 61 [20]p. 11 refs. MCL-983/1+2; AD 265 663.
Order from OTS or SLA $1.60 61-28992

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1960, no. 5, p. 116-123.

DESCRIPTORS: *Communications theory, *Radio communication systems, Radio transmission, Coding, Errors, Signal-to-noise ratio, Statistical analysis, *Noise (Radio), Reduction.

The first method is as follows. The source of the communications possesses a certain redundancy, which is eliminated by a device that performs statistical coding. The length of the message is decreased, while the efficiency of the system of information transmission is increased. In some optimum manner, for example by using the best noise-free codes of Hamming, Slepian or Meshkovskiy an artificial redundancy is introduced to improve the freedom from noise. This is accomplished by the noise-free coder. The information is transmitted over the channel and the noises be characterized by the probability of error of the single impulse p. Devices respectively decode the code combinations of the noise-free code and the code combinations of the statistically noise-free code. The second method is as follows. The symbols most frequently encountered and arriving from the source are transmitted by means of code combinations possessing a high degree of noise-free properties. This is accomplished by a statistically noise-free coder. The mean probability of the correct reception of a transmitted symbol is thus increased. At low signal-noise ratios, the method of transmission with statistically noise-free coding assures a lower probability of errors, while at high signal-to-noise ratios, the first method gives this assurance.

Palm, C[onny].
RAPID INTENSITY FLUCTUATIONS [Schnelle Intensitätsschwankungen]. [1961] 21p.
Order from SLA $2.60 62-10321

Trans. of Ericsson Technics (Sweden) [1943] no. 44, p. 56-66.

DESCRIPTORS: *Telephone communication systems, Communication systems, Traffic, Intensity, Probability, Theory.

SOCIAL SCIENCES

Chtetsov, V. P.
FACTOR ANALYSIS IN ANTHROPOLOGY (Faktornyi Analiz v Antropologii). 23 Oct 61 [10]p. 27 refs. JPRS: 10655.
Order from OTS or SLA $1.10 62-13216

Trans. of Voprosy Antropologii (USSR) 1960, no. 3, p. 106-111.

DESCRIPTORS: *Anthropometry, *Factor analysis, Statistical functions, Body, Measurement, Bibliography.

A review of English and U. S. literature.

Gergov, Georgi.
GENERAL ECONOMIC REGIONALIZATION IN THE PEOPLE'S REPUBLIC OF BULGARIA. 25 Jan 61 [9]p. JPRS: 6636.
Order from OTS or SLA $1.10 62-19302

Trans. of Planova Stopanstvo (Bulgaria) 1960, v. 15, no. 3, p. 77-80.

DESCRIPTORS: *Economics, Geography, Industry, Agriculture, *Bulgaria.

Ismagilova, R. N.
A DISCUSSION OF THE PLAN FOR SCIENTIFIC RESEARCH WORK AT THE AFRICAN INSTITUTE, ACADEMY OF SCIENCES USSR. 27 Sep 61 [9]p. JPRS: 8948.
Order from OTS or SLA $1.10 61-28622

Trans. of Voprosy Istorii (USSR) 1960, no. 10, p. 144-146.

DESCRIPTORS: *Scientific research, Scientific organizations, *Social sciences, *Africa.

Documentation

Erdelyi, Elek
THE PUBLISHING ACTIVITIES OF THE HUNGARIAN ACADEMY OF SCIENCES. 6 Mar 62 [15]p. JPRS: 12814.
Order from OTS or SLA $1.60 62-23400

Trans. of Magyar Tudomany (Hungary) 1961, v. 6[68] no. 6, p. 364-367.

DESCRIPTORS: Scientific organizations, *Periodicals, Literature, *Dictionaries, *Encyclopedias, *Scientific reports, Production, *Hungary.

Gilyarevskii, R. S.
BIBLIOGRAPHIC DESCRIPTION AS AN ELEMENT OF INFORMATION. Foreign Developments in Machine Translation and Information Processing, no. 73. 14 Mar 62 [20]p. 13 refs. JPRS: 12957.
Order from OTS or SLA $1.60 62-23444

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 6, 11p.

DESCRIPTORS: *Documentation, *Bibliography, Coding, Preparation.

Konarski, Michael M.
RUSSIAN-ENGLISH DICTIONARY OF MODERN TERMS IN AERONAUTICS AND ROCKETRY. May 62, app. 600p.
Order from PP $20.00

DESCRIPTORS: *Dictionaries, Aeronautics, Rockets.

Lavrent'eva, G. A.
A GENERAL INFORMATION LANGUAGE TO BE EMPLOYED IN AN EXPERIMENTAL MECHANIZED SYSTEM FOR LITERATURE SEARCHING IN THE FIELD OF MECHANICS. Foreign Developments in Machine Translation and Information Processing, no. 74. 21 Mar 62 [28]p. 8 refs. JPRS: 13055.
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Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 6, 12p.

DESCRIPTORS: *Mechanics, Literature, Bibliography, *Documentation, Indexes, Preparation, Digital computers, Data storage systems.

We discuss certain problems connected with the compilation of a thesaurus and some results obtained in small-scale test searches. (Author)

Pevzner, B. R. and Styazhkin, N. I.
A METHOD OF SPECIAL ABSTRACTING. Foreign Developments in Machine Translation and Information Processing, no. 76. 21 Mar 62 [25]p. 3 refs. JPRS:13057.
Order from OTS or SLA $2.60 62-23636

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 6, 14p.

DESCRIPTORS: Automatic, *Abstracting, *Documentation, Data processing systems.

Procedures are proposed for discovering and evaluating the weight (i.e., the significance) of the relationships in which a term appears in a scientific paper, and a special method of mechanical or automatic abstracting is described that is based on these procedures. (See also 62-23783)

Purto, V. A.
AUTOMATIC ABSTRACTING BASED ON A STATISTICAL ANALYSIS OF THE TEXT. Foreign Developments in Machine Translation and Information Processing, no. 83. 28 Mar 62 [18]p. 6 refs. JPRS: 13196.
Order from OTS or SLA $1.60 62-23783

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961, no. 9, 16p.

DESCRIPTORS: Automatic, *Abstracting, *Documentation, Statistical analysis, Data processing systems.

The method for mechanical abstracting proposed by H. P. Luhn (IBM Journal of Research and Development 2: 159-165, 1958) was applied to material written in Russian. The sentences that were selected according to Luhn's formula with the largest "significance coefficients" n^2/M (here n is the number of significant words in a sentence and M is the total number of words in the sentence) were not actually the sentences most essential to the meaning. The abstract contained sentences not conveying basic information and not logically connected with each other. It is proposed that for automatic abstracting the sentences that are most closely connected are those in which the greatest number of the same significant words occur. An abstracter written abstract from the abstract journal Mashinostroyeniye is presented, then several mechanically prepared abstracts of the same original article are presented for comparison. The mechanically prepared abstracts were prepared (1) according to the method of H. P. Luhn, (2) with phrases chosen from the repetition frequency of individual significant words, (3) with phrases chosen while taking into account the repetition frequency of sequential combinations of significant words, and (4) with phrases selected by taking into account the repetition frequency of all possible combinations of significant words within the phrase. (See also 62-23636)

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BR-SOV/5797
Mal'ts, Lazar' Uriasovich
PISTON-TYPE HYDRAULIC DRIVES WITH CONTROLLED PUMPS (Porshmevyye gidravlicheskiye peredachi s reguliruyemymi nasosami) Leningrad, Sudpromgiz, 1961. 210p. 5300 copies printed.

BR-SOV/5805
Kremnev, Oleg Aleksandrovich, and Abram Lazarevich Satanovskiy
AIR AND WATER-EVAPORATIVE EQUIPMENT COOLING (Vozdushno-vodoisparitel'noye okhlazhdeniye oborudovaniya) Moscow, Mashgiz, 1961. 179p. Errata slip inserted. 6000 copies printed.

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Artsimovich, Lev Andreyevich
CONTROLLED THERMONUCLEAR REACTIONS (Upravlyayemyye termoyadernyye reaktsii) Moscow, Fizmatgiz, 1961. 467p. 10,000 copies printed.

BR-SOV/5807
Aleksandrov, S. G. and R. Ye. Fedorov
SOVIET SATELLITES AND SPACESHIPS (Sovetskiye sputniki i kosmicheskiye korabli) 2d ed., enl. and rev. Moscow, Izd-vo AN SSSR, 1961. 439p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya seriya) Errata slip inserted. 30,000 copies printed.

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Perekalin, Vsevolod Vasil'yevich
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Konovalov, Petr Gordeyevich
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Berezovskiy, B. I.
SOME CONSTRUCTION FEATURES UNDER CONDITIONS OF THE EXTREME NORTH (Nekotoryye osobennosti stroitel'stva v usloviyakh kraynego severa) Moscow, Gosstroyizdat, 1960. 126p. 2000 copies printed.

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Zaretskaya, Yuliya Mikhaylovna
LYMPHOID ORGANS IN RADIATION PATHOLOGY (Limfoidnyye organy v luchevoy patologii) Moscow, Medgiz, 1961. 114p. Errata slip printed on the inside of the back cover. 3000 copies printed.

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DESIGN AND CONSTRUCTION OF AIRCRAFT HYDRAULIC EQUIPMENT (Raschety i konstruktsii samoletnykh gidravlicheskikh ustroystv) 3rd ed., rev. and enl. Moscow, Oborongiz, 1961. 476p. 10,150 copies printed. Errata slip inserted.

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MANUAL ON THE X-RAY STRUCTURAL ANALYSIS OF POLYCRYSTALS (Spravochnik po rentgenostrukturnomu analizu polikristallov) Moscow, Fizmatgiz, 1961. 863p. Errata slip inserted. 9000 copies printed.

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CONTROLLED ATMOSPHERES AND THEIR USE IN HEAT AND THERMOCHEMICAL TREATMENT OF METALS; SURVEY (Kontroliruyemyye atmosfery i ikh primeneniye dlya termicheskoy i khimiko-termicheskoy obrabotki metallov; obsor) Leningrad, 1960. 74p. (Series: Leningradskiy Dom nauchno-tekhnicheskoy propagandy. Seriya: Metallovedeniye i termicheskaya obrabotka). Errata slip inserted. 5500 copies printed.

BR-SOV/5838
Shchukin, A. N.
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Berklayd, I. M., and others
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AERODYNAMICS OF THE GAS-FLOW SECTION OF SHIP TURBINES (Aerodinamika protochnoy chasti sudovykh turbin) Leningrad, Sudpromgiz, 1961. 362p. 2750 copies printed.

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BR-SOV/5850
Ganulich, Anatoliy Konstantinovich
ELECTRONIC ANALOG COMPUTERS (Elektronnyye modeliruyushchiye ustroystva) Moscow, Gosenergoizdat, 1961. 75p. (Series: Biblioteka po avtomatike, vyp. 33) 25,000 copies printed.

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Gorodetskiy, Aleksey Afanas'yevich
ESSAYS ON RADIOBIOLOGY (Ocherki po radiobiologii) Kiyev, Izd-vo AN UkrSSr, 1961. 219p. 3000 copies printed.

BR-SOV/5854
Streletskiy, Nikolay Stanislavovich, and others
METALLIC STRUCTURES (Metallicheskiye konstruktsii) 3rd ed., rev. Moscow, Gosstroyizdat, 1961. 776p. Errata slip inserted. 70,000 copies printed.

TRANSLATIONS IN PROCESS

RADIOACTIVE ISOTOPES AND THE CONSTRUCTION INDUSTRY: INTERNATIONAL COLLOQUIM, LEIPZIG, 28-30 SEP 60 (Radioaktive Isotope und das Bauwesen) Hochschule fllr Bauwesen, Leipzig. Wissenschaftliche Zeitschrift (East Germany) n.d., sonderdruck, 152p.

RADIOBIOLOGY, 1962 [VOL. 2] NOS. 1-3
Radiobiologiya (USSR) 1962 [v.2] nos. 1-3.

DYNAMICS OF SOILS
Dinamika Gruntov, issued by Academy of Construction and Architecture, Scientific Research Institute of Foundations and Subsurface Structures as Symposium no. 32, 1958, 162p.

ENGINEERING GEOCRYOLOGY: [PERMAFROST· OLOGY, 1959] VOL. 2, CHAPS. 11-13.
[Osnovy Geokriologii (Merzlotovedeniya) Moscow, 1959] v. 2, chaps. 11-13.

THEMATIC PLAN OF GOSATOMIZDAT FOR 1962.
Tematicheskii Plan Gosatomizdat na 1962 God, n.p., n.d., 63p.

Brunner, W. and Paul, H.
THE THEORY OF NUCLEAR FISSION, II-IV
Annalen der Physik (East Germany) 1961 [ser. 7] v.7, no. 5/6, p. 325-341; v.8, no. 3/4, p. 146-157.

Christophe-Michel, Levy, Mireille.
ARTIFICIAL REPRODUCTION OF MINERALS APPEARING IN THE CONTACT METAMORPHISM OF GRANITE (Réproduction Artificielle de Minéraux qui Apparaissent dans le Métamorphisme de Contact du Granite).
Société Française de Minéralogie et de Cristallographie. Bulletin, 1953, v. 76, nos. 7-9, p. 237-293.

Larue, G. De.
CHEMICAL AND ELECTROCHEMICAL PROPERTIES IN MOLTEN LITHIUM CHLORIDE-POTASSIUM CHLORIDE EUTECTIC (Propriétés Chimiques et Electrochimiques dans l'Eutectique de Lithium Chlorure et Potassium Fondu).
Commissariat à l'Énergie Atomique (France) no. 1847, 1961.

Komarovskii, A. N.
CONSTRUCTION OF NUCLEAR INSTALLATIONS: [SELECTED PARTS].
Stroitel'stvo Yadernykh Ustanovok, Leningrad, 1961, p. 1-198 and 204-336.

Macke, Wilhelm
ON THE RECIPROCAL ACTION IN FERMI-GAS.
Über die Wechselwirkungen en Fermi-Gas, n.p., n.d.

Oganesyan, Yu. Ts., Lobanov, Yu. V. and others
GAMMA SPECTRA IN HEAVY ION REACTIONS
Joint Institute for Nuclear Research (USSR) P-802, n.d.

Raoult, G.
PULSE GENERATION OF INTENSE MAGNETIC FIELDS: APPLICATIONS TO PHENOMENA OF ROTATIONAL POLARIZATION AND MAGNETIC BIREFRINGENCE (Réalisation de Champs Magnétiques Intenses par Impulsions. Applications aux Phenomènes de Polarisation Rotatoire et de Biréfringence Magnetique).
Ann[alen der] Phys[ik] (Germany) 1949 [ser. 6] v.4, p. 369-421.

Tsytovich, N. A.
MEASURING THE COHESIVE FORCES WITHIN FROZEN GROUND (Instruktionye Ukazaniya po Opredenliniya Sil Stsepleniya Merzlykh Gruntov).
[Akademiya Nauk SSSR. Institut Merzlotovedeniya]. Materialy po Laboratornym Issledovaniyam Merzlykh Gruntov, 1954, v.2, p. 162-175.

Vyalov, S. S.
LAWS OF ICE DEFORMATION (Zakonomernosti Deformirovaniya L'da).
[Sovetskaya Antarkticheskaya Ekspeditsiya, 1955-] (USSR) 1960, v. 10, p. 239-248.

Vyalov, S. S. and Chernigov, V. A.
RELATION BETWEEN STRESS AND DEFORMATION OF ICE CONSIDERING THE TIME FACTOR (Zavimosti Mezhdu Napryazheniem i Deformatsiei L'da s Uchetom Faktora Vremeni).
[Sovetskaya Antarkticheskaya Ekspeditsiya, 1955-] (USSR) 1960, v. 10, p. 249-253.

Vyalov, S. S.
TIME AS A FACTOR IN THE DEFORMATION OF FROZEN GROUND UNDER PRESSURE (Zavisimosti Mezhdu Napryazheniem i Deformatsiei Merzlykh Gruntov s Uchetom Faktora Vremeni).
Akademiya Nauk SSSR. Doklady, 1956, v. 108, p. 1409-1052.

Vyalov, S. S.
VISCO-PLASTIC FLOWS OF GLACIERS AND THE LAWS OF ICE DEFORMATION (Vyazko-Plasticheskoe Technie Lednikovykh Pokrovov i Zakonomernosti Deformirovaniya L'da).
Issledovaniya po Fizike i Mekhaniki Merzlykh Gruntov (Investigations in Physics and Mechanics of Frozen Soils) Moscow, 1961, p. 137-155.

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